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Integrated Cultural Resources Management Plan, U.S. Army Garrison, Fort Belvoir, Virginia Final Report



**Environmental & Natural Resources Division
Directorate of Installation Support
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<p>Abstract</p> <p>The U.S. Army Garrison Fort Belvoir is the principal regional administrative and logistics center for the Military District of Washington (MDW). The installations mission is: to command, control, and operate Fort Belvoir and assigned attached units, to provide installation support to authorized activities and personnel assigned to or located in the geographical support area of Fort Belvoir, and to plan and maintain mobilization readiness for FB and tenant activities.¹ Fort Belvoir also receives, supports, and trains Reserve units and prepares forces for employment in the National Capital Region.² The 8,239-acre post hosts more than 100 Department of Defense (DoD), Department of the Army (DA), government, and civilian tenant organizations. Fort Belvoir is responsible for the stewardship of the cultural and historical resources located within its boundaries. Fort Belvoirs cultural resources responsibilities are defined by a wide range of laws, principally the National Historic Preservation Act (NHPA) of 1966, as amended, which requires Federal agencies to identify, inventory, evaluate, and protect properties listed in or eligible for listing in the National Register of Historic Places (National Register), and by DoD and DA regulations, including Army Regulation (AR) 200-4. Among other items, AR 200-4 requires that Fort Belvoir prepare an Integrated Cultural Resource Management Plan (ICRMP).</p>		
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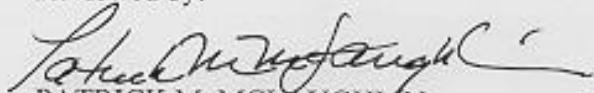
ENVIRONMENTAL ASSESSMENT

FOR

US ARMY GARRISON, FORT BELVOIR, VIRGINIA INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN

February 2001

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EXECUTIVE SUMMARY

The U.S. Army Garrison Fort Belvoir is the principal regional administrative and logistics center for the Military District of Washington (MDW). The installation's mission is: "to command, control, and operate Fort Belvoir and assigned attached units, to provide installation support to authorized activities and personnel assigned to or located in the geographical support area of Fort Belvoir, and to plan and maintain mobilization readiness for FB and tenant activities".¹ Fort Belvoir also receives, supports, and trains Reserve units and prepares forces for employment in the National Capital Region.² The 8,239-acre post hosts more than 100 Department of Defense (DoD), Department of the Army (DA), government, and civilian tenant organizations.

Fort Belvoir is responsible for the stewardship of the cultural and historical resources located within its boundaries. Fort Belvoir's cultural resources responsibilities are defined by a wide range of laws, principally the National Historic Preservation Act (NHPA) of 1966, as amended, which requires Federal agencies to identify, inventory, evaluate, and protect properties listed in or eligible for listing in the National Register of Historic Places (National Register), and by DoD and DA regulations, including Army Regulation (AR) 200-4. Among other items, AR 200-4 requires that Fort Belvoir prepare an Integrated Cultural Resource Management Plan (ICRMP).

Objectives of the Fort Belvoir Integrated Cultural Resource Management Plan (ICRMP)

An ICRMP facilitates installation compliance with cultural resource management laws and policies by:

- integrating cultural resources management into the existing framework of Fort Belvoir's operations and mission in a manner consistent with current Federal, DoD, and DA laws and regulations;
- developing a resource program to enhance project coordination, planning, and compliance activities;³
- providing the basis for one or more Programmatic Agreement(s) (PA) among the Department of the Army (Fort Belvoir), the Virginia Department of Historic Resources (VDHR), the Advisory Council on Historic Preservation (ACHP), and other interested groups; and
- providing installation-specific procedures and recommendations for cultural resources management.

This ICRMP meets the requirements of AR 200-4 by:

- summarizing Fort Belvoir's mission and history (Chapter II);
- providing an inventory and evaluation of all known and potential archeological and architectural resources (Chapter II and Appendix IV);

- defining appropriate prehistoric and historic contexts for Fort Belvoir (Appendix III);
- identifying applicable Federal laws, standards, and guidelines, and Army regulations that relate to cultural resources management (Chapter III and Appendix II);
- identifying the types of undertakings that may affect cultural resources and specific projects that may require cultural resources compliance review (Chapter III);
- examining the current administrative, operations, planning, and maintenance decision-making processes at Fort Belvoir (Chapter III);
- recommending strategies for managing, maintaining, and treating cultural resources and complying with Federal, DoD, and Army cultural resource management laws and regulations (Chapters IV and V); and
- developing standard operating procedures for internal installation coordination and external Section 106 consultation for undertakings that may affect cultural resources (Chapter IV).

The ICRMP integrates with and complements other planning documents, including the Fort Belvoir Real Property Master Plan-Long Range Component,⁴ the Fort Belvoir Installation Design Guide,⁵ and the Fort Belvoir Integrated Natural Resources Management Plan. This ICRMP was designed to be dynamic, and to be reviewed and updated periodically as conditions, requirements, goals, and objectives at Fort Belvoir change.

Legislative and Regulatory Framework

Federal Cultural Resources Law

The principal Federal laws that govern Fort Belvoir's cultural resource program include:

- **The National Historic Preservation Act (NHPA) of 1966 (as amended),** which seeks to safeguard the historic environment while advancing Federal funded or permitted projects. The two primary elements of the NHPA are:
 - **Section 106**, which directs Federal agencies, when planning their activities, to consider historic resources under their jurisdiction or control that are listed or eligible for inclusion in the National Register of Historic Places. The Advisory Council for Historic Preservation has issued implementing regulations (36 CFR 800 [revised 1999]) that establish procedures for project review and public involvement to ensure that historic preservation and the public interest are factored into agency planning decisions.
 - **Section 110**, which requires Federal agencies to locate, inventory, and nominate to the National Register of Historic Places all historically

significant properties under their jurisdiction. The language in this section (added 1980) derived directly from Executive Order No. 11593 (*Protection and Enhancement of the Cultural Environment* [1971]).

- **The National Environmental Policy Act (NEPA)(1969)** requires Federal agencies to determine the impacts of their activities upon the environment, including historic properties. Although NEPA compliance cannot be substituted for compliance with NHPA, agencies may coordinate studies and documents completed under Section 106 with those required for NEPA.⁶
- **The Archeological and Historic Preservation Act (AHPA)(1974)** requires Federal agencies to recover or protect archeological data that could be damaged by Federally-funded or -licensed construction projects.
- **The American Indian Religious Freedom Act (AIRFA)(1978)** affirms the right of Native Americans to have access to their sacred places and promotes consultation with Indian religious practitioners. Activities under AIRFA may be coordinated with consultations required under Section 106 of the NHPA.
- **The Archeological Resources Protection Act (ARPA)(1979)** requires permits for archeological excavations or removal of archeological resources from Federally-owned properties and imposes Federal penalties on persons who excavate, remove, damage, or otherwise deface archeological resources on Federal property without proper permits.
- **The Native American Graves Protection and Repatriation Act (NAGPRA)(1990)** governs the treatment of Native American cultural items recovered from lands controlled or owned by the United States.

Department of the Army Regulations

The Department of Defense (DoD) and Department of the Army (DA) also have developed regulations that further delineate the responsibilities and procedures for cultural resources stewardship. Army Regulation (AR) 200-4, *Cultural Resources Management*⁷ and Department of the Army Pamphlet (DA PAM) 200-4⁸ apply to all DA installations and activities, and supercede AR 420-40, *Historic Preservation* (May 1984). Both documents are designed to ensure that Army installations comply with cultural resource protection laws and make informed decisions regarding cultural resources within their mission.⁹

AR 200-4 delineates the Army's policies, procedures, and responsibilities for the integrated management of cultural resources in compliance with the NHPA and other federal laws and regulations, and in support of the military mission.¹⁰ DA-PAM 200-4 provides guidance for implementing the policy requirements outlined in AR 200-4. Under these regulations, Installation Commanders must:

- designate a "Cultural Resource Manager" (CRM) to coordinate the installation's cultural resources management program;

- develop a comprehensive program to identify, protect, curate, and interpret the installation's cultural resources;
- as needed, establish a government-to-government relationship with Federally-recognized tribal governments and other Native American organizations in accordance with federal laws and regulations;
- establish a consultation process between the CRM and installation staff elements, tenants, and other identified "interested parties" during the planning stages of activities or undertakings;
- prepare and implement an installation-wide Programmatic Agreement (PA) and/or a Comprehensive Agreement (CA), where required, to streamline compliance with the NHPA and NAGPRA for ongoing mission and operations;
- integrate cultural resource management with installation training and testing, master planning (AR 210-20), environmental impact analysis (AR 200-2), natural resources and endangered species management planning (AR 200-3), and the Integrated Training Area Management (ITAM) program.
- establish priorities and program funds for cultural resources compliance and management activities;
- conduct a comprehensive evaluation of the installation's cultural resources management program; and
- prepare, maintain, and implement ICRMPs, cultural resources inventory plans and schedules, PAs, and similar documents and agreements, as appropriate.¹¹

Cultural Resource Management at Fort Belvoir

Program History

Fort Belvoir's historic resources encompass both pre-installation history and U. S. military history from World War I through the Cold War. These resources include buildings, structures, archeological sites, and historic landscapes. Although the first cultural resources investigations at the installation date back to the 1920s, Belvoir's cultural resources management program has become increasingly sophisticated in response to legislative and Army direction since the 1980s.

One focus of previous cultural resource investigations has concerned the identification of Fort Belvoir's numerous archeological sites. These have included:

- Archeological investigations at Belvoir Manor, site of the eighteenth century home of William Fairfax. During the 1930s, these prompted the renaming of the installation and more recent excavations at the plantation site resulted in listing the Belvoir Manor Ruins and Fairfax Gravesites in the National Register of Historic Places in 1973.

- A systematic program of archeological resource identification and evaluation. To date, over 300 archeological sites have been identified on the installation, and 11 of these have been evaluated as National Register eligible (Table 1). The installation also has completed an installation-wide archeological disturbance study, an historic and prehistoric context for the installation, an, installation-wide identification study of previously unsurveyed areas, and a comprehensive map series showing the surveyed and unsurveyed areas of the installation. In 1994, the Virginia Department of Historic Resources (VDHR) certified that Fort Belvoir had satisfactorily completed all required archeological identification studies.
- Development of a Geographic Information System (GIS) data layer for all known archeological sites on the installation, to facilitate installation-wide project planning. The archeological data layer supplements the Fort Belvoir's existing GIS system, and contains information on the results of archeological evaluation and mitigation studies.

Fort Belvoir also has conducted numerous surveys and other studies of its historic architectural resources, including:

- an architectural survey and evaluation of approximately 200 buildings constructed between 1917 and 1957, followed by a reconnaissance survey of all of Fort Belvoir's pre-1946 buildings and structures, which resulted in identifying the significant structures at the installation;
- A conditions assessment of 33 historic, non-residential buildings;
- An evaluation of the National Register eligibility of 45 buildings constructed between 1945 and 1950 within the Fort Belvoir Historic District; and
- Preparation of National Register nominations for the Fort Belvoir Historic District (196 contributing buildings and 11 non-contributing structures), the Thermo-Con House (Building 172), the Camp A. A. Humphreys Pump Station and Filtration Building, and the SM-1 Nuclear Power Plant complex. In 1996, VDHR approved the National Register nominations for the historic district and the Pump Station and Filtration Building.

Table 2 presents a summary of the National Register eligible built resources at Fort Belvoir.

Finally, Fort Belvoir has promoted the stewardship of its cultural resources and public education by developing interpretive signage for the Belvoir Manor site, and, under a Department of Defense (DoD) Legacy Resource Management Program grant, publishing a booklet on the history of the installation.

In summary, Fort Belvoir's cultural resources management program has established a good track record of cooperation and consultation with the Virginia Department of Historic Resources (VDHR), the Advisory Council of Historic Preservation (AHP), and other interested parties. The present ICRMP is designed to further enhance the installation's record of past accomplishment.

Table 1

Site Number	Site Chronology	Site Type/Function	Investigators	Comments
44FX4	Historic: 19th century	Plantation Complex	Shott; MAAR.; JRI, Inc.	Listed in National Register, 1973
44FX12	Prehistoric: Early Archaic - Late Woodland	Seasonal occupation site	MAAR, Inc.; Fairfax County Heritage Resources; RCG&A	Tested/evaluated
44FX1305	Prehistoric: Middle Archaic - Early Woodland	Unidentified	MAAR, Inc.; Fairfax County Heritage Resources; RCG&A	Tested/evaluated
44FX1309	Prehistoric: Middle Archaic - Late Woodland	Unidentified	MAAR, Inc.; Fairfax County Heritage Resources; RCG&A	Tested/evaluated
44FX1314	Prehistoric: Middle Archaic - Late Woodland	Unidentified	MAAR, Inc.; Fairfax County Heritage Resources; RCG&A	Tested/evaluated
44FX1328	Prehistoric: Late Archaic - Early Woodland Historic: 18th century	Prehistoric: Unidentified Historic: domestic	MAAR, Inc.; Fairfax County Heritage Resources; Dames and Moore 1999	Mitigated
44FX1340	Prehistoric: Middle Archaic - Late Woodland Historic: 18th century	Prehistoric: Unidentified Historic: domestic	MAAR, Inc.; Fairfax County Heritages Resources; RCG&A	Evaluated; eroding
44FX1505	Historic: 20th century	Military training trenches	MAAR, Inc.; Milner	Evaluated
44FX1677	Historic: 19th century	Domestic	MAAR, Inc.; Milner	Evaluated
44FX1908	Prehistoric: Early - Mid Woodland	Unidentified	MAAR, Inc.; Milner	Evaluated
44FX1925	Prehistoric: Late Archaic Early Woodland	Unidentified	MAAR, Inc., RCG&A	Evaluated
44FX457	Prehistoric	camp	Karell Associates	Mitigated/Excavated; Destroyed Fairfax Co. Parkway
Accotink Prehistoric Site	Prehistoric	camp	Karell Associates	Mitigated/Excavated; Destroyed Fairfax Co. Parkway
Kernan Run Site	Prehistoric	Unknown	Karell Associates	Mitigated/Excavated; Destroyed Fairfax Co. Parkway

Table 2

Building No.	Building Name	Date	National Register Status	Survey Type/Date
1	Commanding Officer's Quarters	1935	Fort Belvoir H.D. - Contributing	
2	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
3	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
4	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
5	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
6	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
7	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
85	Transformer (Quarters 7 & 8)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
8	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
9	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
10	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
11	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
12	Officer Family Housing (Type B)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
13	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
14	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
15	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
62	Tennis Courts	1950	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
86	Transformer (Quarters 16 & 17)	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
16	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
17	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
18	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
19	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
20	MacKenzie Hall	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
21	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
22	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
23	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
24	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
25	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
26	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
27	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
28	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
29	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
30	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
31	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
32	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
33	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
33A	Transformer	1943	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
34	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
35	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
36	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
37	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
38	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984

169	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
170	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
171	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
172	"Thermo-Con" House	1948	Individual NR Eligible	Thermo-Con Nom. 1995
173	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
174	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
175	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
176	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
177	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
178	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
184	NCO Club (Club 7, 8, 9)	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
188	Water Storage Tank	1918	Fort Belvoir H.D. - Contributing	HABS, 1984
191	Fire Station	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
201	Wilson Hall-Administration	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
202	MacArthur Hall - Defense Systems	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
	Management College			
203	Barracks w/o Mess	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
204	General Instruction Building	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
205	General Instruction Building	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
206	Barracks w/o Mess	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
207	General Instruction Building	1929	Fort Belvoir H.D. - Contributing	HABS, 1984
208	Barracks w/o Mess	1929	Fort Belvoir H.D. - Contributing	HABS, 1984
209	General Instruction Building	1929	Fort Belvoir H.D. - Contributing	HABS, 1984
210	Barracks w/o Mess	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
211	Barracks w/o Mess	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
212	Barracks w/o Mess	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
213	Barracks w/o Mess	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
S-214	Bagley Hall	1941	Fort Belvoir H.D. - Contributing	HABS, 1984
S-215	Educational Building	1941	Fort Belvoir H.D. - Contributing	HABS, 1984
216	Flagler Hall-Civilian Personnel Office	1932	Fort Belvoir H.D. - Contributing	HABS, 1984
232	Flagpole	1976	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
217	Detached Garage	1932	Fort Belvoir H.D. - Contributing	HABS, 1984
218	Monument	1967	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
219	Essayons Theater and Administration	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
226	Battalion Headquarters	1957	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
S-231	Consolidated Mess #1	1968	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
235	Battalion Headquarters	1965	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
240*	Wallace Theater	1950	Fort Belvoir H.D. - Contributing*	Survey 1996
245	Baseball Field	1950	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
246	Communications Electronics	1951	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
	Building			
256	Main Post Office	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
257	Hill Hall - Judge Advocate's Office	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
258	Administration Offices	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
268	Williams Hall - Printing Facility	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
269	Abbott Hall - Post Headquarters	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
270	Thayer Hall - General Instruction	1935	Fort Belvoir H.D. - Contributing	HABS, 1984

350	Sewage Pump Station	c. 1962	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
372	SM-1 Nuclear Power Plant	1957	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
373	Sentry Station/Emergency Siren	c. 1960	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
375	Pumphouse	c. 1961	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
376	Waste Retention Building	c. 1961	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
384	Electronic Equipment Facility	c. 1964	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
T-435	Fairfax Chapel	1941	Fort Belvoir H.D. - Contributing	HABS, 1984, 1992
T-436	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-437	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-438	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-439	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-440	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-441	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
443	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
444	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
445	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
446	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
497	Ballfields	1955	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
500	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
590	Transformer Vault	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
501	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
502	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
503	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
1024*	Van Noy Library	1949	Fort Belvoir H.D. - Contributing*	Survey, 1996
1124	Gas Station	1934	Fort Belvoir H.D. - Contributing	Survey, 1996
T-1139	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1140	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1141	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1142	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1143	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1144	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1145	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
1150	PX Administration	1934	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1151	Transformer Vault	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1156	Substation	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1157	Stand-by Generator	1929	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
1158	Electric Storage	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1400	Water Filtration Plant	1918	Humphreys Pump Station MP	1400 Nom., 1996
1404	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1405	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1407	Pump Station Complex	1935	Humphreys Pump Station MP	1400 Nom., 1996

1405	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1407	Pump Station Complex	1935	Humphreys Pump Station MP	1400 Nom., 1996
1408	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1411	Pump Station Complex	c. 1942	Humphreys Pump Station MP	1400 Nom., 1996
1421	Pump Station Complex	c. 1942	Humphreys Pump Station MP	1400 Nom., 1996
1424	Pump House	1936	Humphreys Pump Station MP	1400 Nom., 1996
5090*	Fixed Ammo. Magazine/EPG	1948	SM-1 Plant M.P. - Contributing*	Survey, 1996
5092*	Fixed Ammo. Magazine/EPG	1948	SM-1 Plant M.P. - Contributing*	Survey, 1996
5094*	High Explosive Magazine/EPG	1948	SM-1 Plant M.P. - Contributing*	Survey, 1996

ABBREVIATIONS:

H.D.: Historic District

M.P.: Multiple Property

NR: National Register

IABS: Historic American Buildings Survey

FBHD Nom.: Fort Belvoir Historic District National Register Nomination

1400 Nom.: Camp AA Humphreys Pump Station and Filter Building NR Nomination

SM-1 Nom.: US Army Package Power Reactor National Register Nomination

Thermo-Con Nom.: Thermo Con House National Register Nomination

Survey 1996: Fort Belvoir Historic Building Survey

*These resources were identified as potentially contributing resources in a 1996 survey prepared by Harnsberger and Associates, Architects entitled *Fort Belvoir Historic Building Survey Addendum*. They are not included in the current National Register nominations for the Fort Belvoir Historic District or the SM-1 Plant Multiple Property.

Current Organizational Framework

At Fort Belvoir, the Directorate of Installation Support (DIS) has primary responsibility for managing the installation's cultural resources. The cultural resources management program is assigned directly to the Environmental/Cultural Resource Manager (CRM) within the DIS. The CRM:

- identifies, evaluates, and nominates historic properties to the National Register;
- oversees compliance with NHPA and all relevant Federal laws, and DoD and DA cultural resource regulations;
- coordinates with, and integrates cultural resource management goals and procedures into other components of Fort Belvoir's administrative structure;
- maintains a current inventory of cultural resources;
- acts to minimize potentially adverse effects on National Register listed or eligible historic resources; and,
- balances cultural resource management requirements with other elements of Fort Belvoir's mission.

Existing planning procedures and policies at Fort Belvoir also facilitate coordination among departments and tenant organizations, and enable cultural resource concerns to be addressed during planning for undertakings on the installation. These procedures and policies include weekly staff meetings among DIS division chiefs; the activities of the Installation Planning Board, which approves undertakings on the post; the Facilities Area Coordinating Officers (FACOs), who coordinate tenant activities and planned undertakings; and programming procedures for work and service orders that encourage early coordination and consultation about CRM issues among appropriate personnel. Specifically, "Form DD1391" contains space for previous cultural resources investigations and concurrence from the State Historic Preservation Officer (SHPO).

Installation Preservation Goals/Action Plan

This ICRMP recommends both installation-wide goals and specific procedural and substantive actions to enhance Fort Belvoir's Cultural Resource Management program. The general goals are summarized in this Executive Summary; specific recommendations are presented in Chapter V ("Action Plan") of this ICRMP.

General Goals

Fort Belvoir should continue its proactive management posture when dealing with cultural resources at the installation. The general goals presented in Chapter V range from adequate advance planning for cultural resource evaluation and management to adopting an installation-wide

preservation and maintenance plan for Belvoir's historic buildings and structures based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

Program Administration

The ICRMP calls for measures to integrate cultural resources considerations more fully into the day-to-day operations and the long-range planning functions of the installation. The specific management goals in Chapter V call for action to:

- Refine the installation's planning procedures to integrate historic preservation considerations earlier and more fully into the installation's planning procedures;
- provide basic cultural resource management training to civilian and military personnel at the base who are concerned with planning and maintenance of Fort Belvoir's buildings and grounds;
- identify and implement efficient means of tracking and documenting Fort Belvoir's record of Section 106 compliance activities;
- Develop and implement systematic procedures to maximize consultation among project planners, designers, engineers, activities managers, and tenant organizations and the installation CRM;
- Develop criteria and procedures to ensure that historic preservation work conducted at Fort Belvoir complies with relevant standards and guidelines; and
- Plan and budget a reserve allocation of funds for unanticipated cultural resources needs, such as the accidental discovery and mitigation of archeological resources.

Cultural Resource Identification, Evaluation, and Treatment

Adoption of the management goals presented in Chapter V of this ICRMP will ensure that Fort Belvoir continues its program that conforms to the letter and the spirit of Federal preservation laws. These recommendations generally call for:

- Maintaining and updating Fort Belvoir's inventory of identified cultural resources and their National Register status (ongoing), and incorporating the results of future investigations into revisions of the ICRMP and other planning documents;
- Preparing conditions assessment reports and establishing systematic, periodic monitoring programs for unevaluated, previously identified or National Register eligible archeological sites and historic buildings;
- Establishing a plan for long-term curation of archeological collections to Federal standards (36 CFR 79, *Curation of Federally-Owned and Administered Archeological Collections*);

- Where appropriate, review and upgrade previous cultural resource surveys to identify and/or evaluate:
 - areas of the installation that may contain unrecorded or poorly defined archeological sites;
 - previously identified and unevaluated archeological sites that are subject to Section 106 compliance review or are subject to adverse effects by natural forces, such as shoreline erosion;
- Re-evaluate the National Register eligibility of buildings that achieve the 50-year age criterion and assess eligibility of other Cold War era (1946-1989) built resources for National Register eligibility under the *exceptional significance* Criterion Consideration (G);
- Expand present boundaries of the Fort Belvoir Historic District to encompass 1920s and 1930s officers' housing (Buildings T451-456, T457-460, T479-81, T483-484, T487-494, and T496);
- Prepare and/or submit for Federal review and approval National Register nominations for:
 - the Barnes-Owsley archeological site (44FX1326);
 - the Fort Belvoir Historic District (with amendments stipulated above);
 - the SM-1 Nuclear Power Plant (Buildings 7350, 372, 7375, and);
 - the Camp A. A. Humphreys Water Filtration Plant (Building 1400 and associated structures); and
 - the Thermo-Con House (Building 172).
- Prepare a Landscape Preservation Plan for the Fort Belvoir Historic District that:
 - documents the historical evolution of the landscape design of the historic District;
 - identifies character-defining features associated with the designed and natural landscape; and
 - recommends measures to maintain and safeguard historic landscape features.

Rehabilitation and Maintenance of Fort Belvoir's Historic Properties

Because Fort Belvoir itself continues to evolve as an installation and its historic buildings are in continuous and active use, care must be taken to maintain the historically significant features of these properties to prevent their deterioration. The specific recommendations presented in Chapter V generally call for measures that emphasize preservation of the historic fabric of the installation by:

Adopting a preservation and maintenance plan that:

- emphasizes retention of the character-defining features and historic materials of Fort Belvoir's historic buildings, structures, and associated landscape features; and
- is based on a schedule of routine building inspections, including a professionally conducted conditions survey of Fort Belvoir's historic buildings and structures every five years;
- Developing a range of feasible alternatives when installation plans affect historic properties;
- Educating tenant organizations that occupy historic buildings of the significance of their accommodations and the need for special management requirements;
- Establishing “demonstrated experience in the successful application of the Secretary of the Interior’s *Standards*” as a selection criterion for awarding contracts for work on Fort Belvoir’s historic properties; and
- Developing a long-range surveillance and maintenance program for Fort Belvoir’s historic cemeteries.

Public Outreach

The architectural and archeological resources at Fort Belvoir represent elements of a wider framework of a regional history of interest to the general public. In addition, the revised regulations governing the Section 106 compliance process (36 CFR 800) call for communication between Fort Belvoir and other public entities; thus, establishing relationships between the installation and outside entities is important. To enhance and facilitate these relationships, this ICRMP recommends that the installation:

- Maintain a copy of the ICRMP for Army community and local community review, and provide copies to the installation Public Affairs Office, the SHPO (VDHR), and local government agencies;
- Develop interpretive programs for its significant archeological sites and structures;

- Establish and strengthen communication with neighboring historic sites and agencies interested in historic preservation, including:
 - Mount Vernon, Gunston Hall, and Woodlawn Plantation; and
 - the National Park Service and regional, state, and local park and planning commissions.

Negotiation of a Programmatic Agreement (PA)

Programmatic Agreements (PAs) are documents that develop standard treatment procedures for cultural resources that are affected by routine or recurrent installation activities or undertakings. A PA can reduce the need for costly and time-consuming Section 106 reviews of individual undertakings by:

- identifying categories of routine maintenance, minor repair, and operations activities at the installation;
- establishing parameters for such activities when they affect historic resources; and
- specifying the types of actions or undertakings that would be categorized as having "no adverse effect" upon historic properties, provided that such projects are undertaken within the negotiated parameters.

PAs are negotiated between the Department of the Army (Fort Belvoir) and oversight agencies (the Virginia Department of Historic Resources [VDHR] and the Advisory Council for Historic Preservation [AHP]). This ICRMP may be used as a basis for negotiation of a PA; once adopted, the document then can be used in place of standard review under the regulations.¹²

Periodic Review of the ICRMP

Fort Belvoir's mission, tenant organizations, and operations procedures are not static, nor are the statutes and regulations that govern them. As a result, the Department of the Army specifies that planning documents like this ICRMP should be reevaluated periodically to ensure their continued usefulness and relevance to new conditions. With regard to cultural resource management, such evaluation should include:

- A annual assessment of the performance of Fort Belvoir's Cultural Resource Management Program and revision of CRM goals, policies, and procedures, as appropriate;
- Maintenance of current organizational and procedural flow charts;
- Maintenance of base maps with current archeological and architectural data; and

- Formal re-evaluation of this ICRMP when other installation planning documents are revised.

GLOSSARY OF TERMS

Advisory Council on Historic Preservation (AChP). An independent Federal regulatory commission that establishes standards for, and oversees, Federal compliance with historic preservation laws.

Cultural objects: As defined by NAGPRA, these items have “historical, traditional, or cultural importance” to Native American groups or cultures, and may include human remains, funerary or sacred objects, and objects of “cultural patrimony.”

Cultural resources: The historically important components at an installation. These can include archeological sites, historic buildings, historical records, Native American sacred and cultural areas, and historic landscapes.

National Register of Historic Places. A nationwide inventory of significant historic properties (prehistoric and historic) that are worthy of preservation.

National Register eligible. A term applied to a cultural resource that has been evaluated and found to meet the National Register Criteria for Evaluation (36 CFR 60 [a-d]). These criteria specify that, to be eligible, a resource must:

- be generally intact or undisturbed; that is, no major changes or disturbances must have occurred in the original fabric or structure of the property; AND
- be associated with a major trend or event of local, state, or national historical importance; OR
- be associated with an individual of local, state, or national historical importance; OR
- represent an unique or particularly outstanding example of a specific resource type; OR
- contain data that will add significantly to our understanding of history or prehistory.

Programmatic Agreement (PA). A PA is an agreement between a Federal agency and one or more regulatory agencies that can be used to reduce the number of cultural resource reviews by determining in advance appropriate treatment for historic properties that may be affected by recurrent or routine installation activities.

Section 106 Review. The process by which Fort Belvoir coordinates with oversight agencies (usually the State Historic Preservation Office and/or the Advisory Council on Historic Preservation) the course of action that is required for compliance with the National Historic Preservation Act.

State Historic Preservation Office (SHPO). An agency of an individual state that has been designated by the ACHP to oversee historic preservation compliance activities within each state. The SHPO for Virginia is the Virginia Department of Historic Resources (VDHR).

Undertaking: In cultural resource management, any action or activity that could affect the cultural resources at the installation.

REFERENCES CITED

1. Woolpert, Inc., *Real Property Master Plan, Fort Belvoir, 1993*. (Woolpert, Inc., 1993a), p. 3-11.
2. Ibid.
3. Department of the Army, *Cultural Resources Management*. Department of the Army Pamphlet 200-4. (Washington: Headquarters, Department of the Army, 1998b), p. 23.
4. Woolpert, Inc. 1993a.
5. Woolpert, Inc., *Real Property Master Plan, Fort Belvoir, Installation Design Guide 1995* (Woolpert, Inc., 1995a).
6. Department of the Army, 1998b, p. 6.
7. Department of the Army, *Cultural Resources Management*. Army Regulation 200-4. (Washington, Headquarters, Department of the Army, 1998a).
8. Department of the Army, 1998b.
9. Department of the Army 1998a, p. 1.
10. Ibid.
11. Ibid., pp. 3-4.
12. Advisory Council on Historic Preservation, *Preparing Agreement Documents: How to Write Determinations of No Adverse Effect, Memoranda of Agreement, and Programmatic Agreements under 36 CFR 800*. (Washington: Advisory Council on Historic Preservation, 1989a), p. 55.

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CHAPTER I

INTRODUCTION

Description of the Installation

The U. S. Army Garrison Fort Belvoir occupies a discontinuous 8,239-acre site in southeastern Fairfax County, Virginia, approximately 11 miles south of Alexandria, Virginia, and 18 miles southwest of Washington, D.C.¹ The Main Post of the installation lies along the western bank of the Potomac River (Figures 1 and 2); the post also exercises direct responsibility for the 820-acre Engineer Proving Ground (EPG), located approximately 2 miles northwest, and real property accountability for a 28-acre parcel near Charlottesville, Virginia, that houses the 258,000 sq ft National Ground Intelligence Center. The 583-acre Humphreys Engineer Center (HEC), an autonomous facility under the direct command of the U. S. Army Corps of Engineers, shares a common boundary with Fort Belvoir in the far northern quadrant of the main installation; although it is separate, the HEC coordinates environmental and cultural resources planning efforts with Fort Belvoir.^{2,3}

Mission Statement

As the principal administrative and logistics center for the Northern Virginia portion of the Military District of Washington (MDW), Fort Belvoir's mission is to:

- command, control and operate Fort Belvoir and assigned attached units;
- provide installation support to authorized activities and personnel assigned to or located in the geographical support area of Fort Belvoir;
- receive, support, and train Reserve units; and
- prepare forces for employment in the National Capital Region.⁴

The installation currently hosts over 100 tenant activities and organizations, including active military and reserve units; civilian tenant organizations; and various components of local, state, and federal agencies. Current Department of the Army (DA) and DoD tenants include the National Imagery and Mapping School, the U.S. Army Information Systems Software Command (USAISC), and the Defense Systems Management College (DSMC). A 240-acre site at the southern tip of the Belvoir peninsula, formerly known as the Belvoir Research, Development, and Engineering Center (BRDEC),⁵ now accommodates the Communications Electronics Command (CECOM) Research, Development and Engineering Center (RDEC).

Geography and Land Use

Geographic Organization of the Post

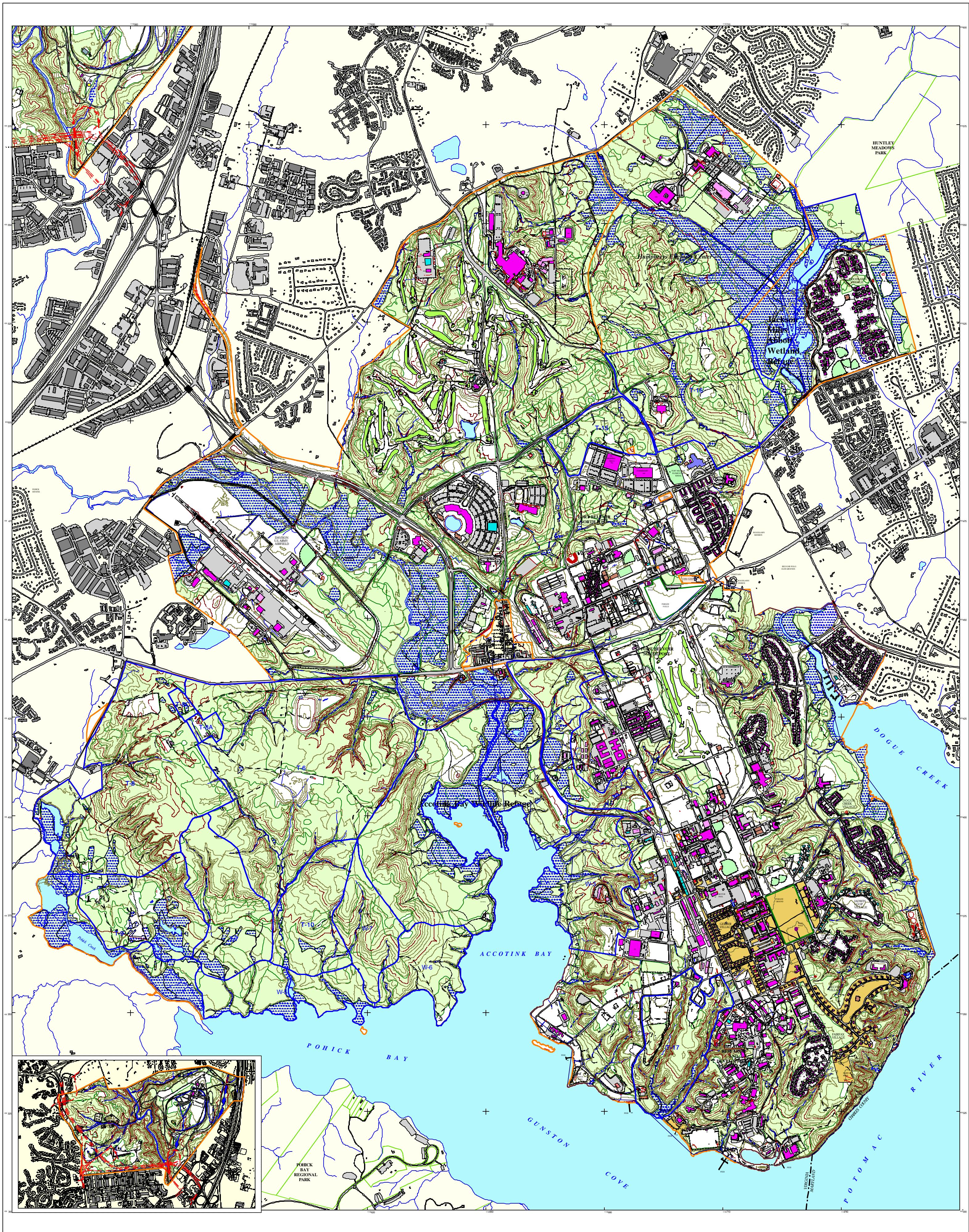
U. S. Army Garrison Fort Belvoir. The Main Post at Fort Belvoir is divided by US Route 1 into two major areas: North Post (north of Route 1) and South Post (south of Route 1). The installation is subdivided further into seven areas that are defined by their function and distinct characteristics (Figure 3). These include:

- The Davison Army Airfield, a 465-acre facility located west of the Fairfax County Parkway Road that provides support facilities for fixed and rotary-wing aircraft, and houses the U.S. Army Operational Support Airlift Command (USAOSAC) and the John S. Mosby U.S. Army Reserve Center;
- The Upper North Post, which houses the Defense Logistics Agency, D-CEETA and Intelligence and Security Command (INSCOM) the Fort Belvoir North Golf Course; provides troop and family housing and installation support facilities; and accommodates community facilities such as the Post Exchange and Commissary and other recreational facilities. The HEC property adjoins the northwestern boundary of the North Post;
- The Lower North Post, east of Accotink Village, contains troop and family housing (McRee Barracks), classrooms, and reserve training activities,⁶ as well as the recently built Center for Army Analysis. New construction in progress in this area will provide a new U.S. Army Reserve Center;
- The South Post contains complexes devoted to research and development, education, post administration and support; medical services; family housing; and community and recreational service;
- The South Post Core, the focal point of the installation and the center of the Fort Belvoir Historic District, contains the installation's principal administrative and educational buildings surrounding a main parade ground, as well as officers' and NCO housing areas;
- The Southwest Area encompasses most of the 1,400 acre Accotink Bay Wildlife Refuge and undeveloped wooded areas that previously were used for engineer and troop training;⁷ and
- The 820-acre Engineer Proving Ground (EPG), located approximately 2 miles northwest of the Main Post, formerly functioned as a testing facility. These operations ceased when the Engineers' Training Center relocated to Fort Leonard Wood, Missouri. No decision regarding the ultimate disposition of this parcel has been made.

Land Leases, Easements, and Outparcels. Fort Belvoir has 9 land leases that accommodate various tenant activities and non-DoD organizations located at the installation. Easements account for approximately 88 acres of the installation. They include:

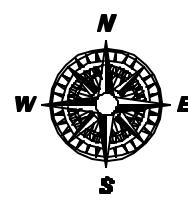
Figure 1.

Unavailable at this time, the map can be obtained by contacting the Fort Belvoir Environmental Natural Resource Department.



1 inch = 3000 feet

11000 10000 9000



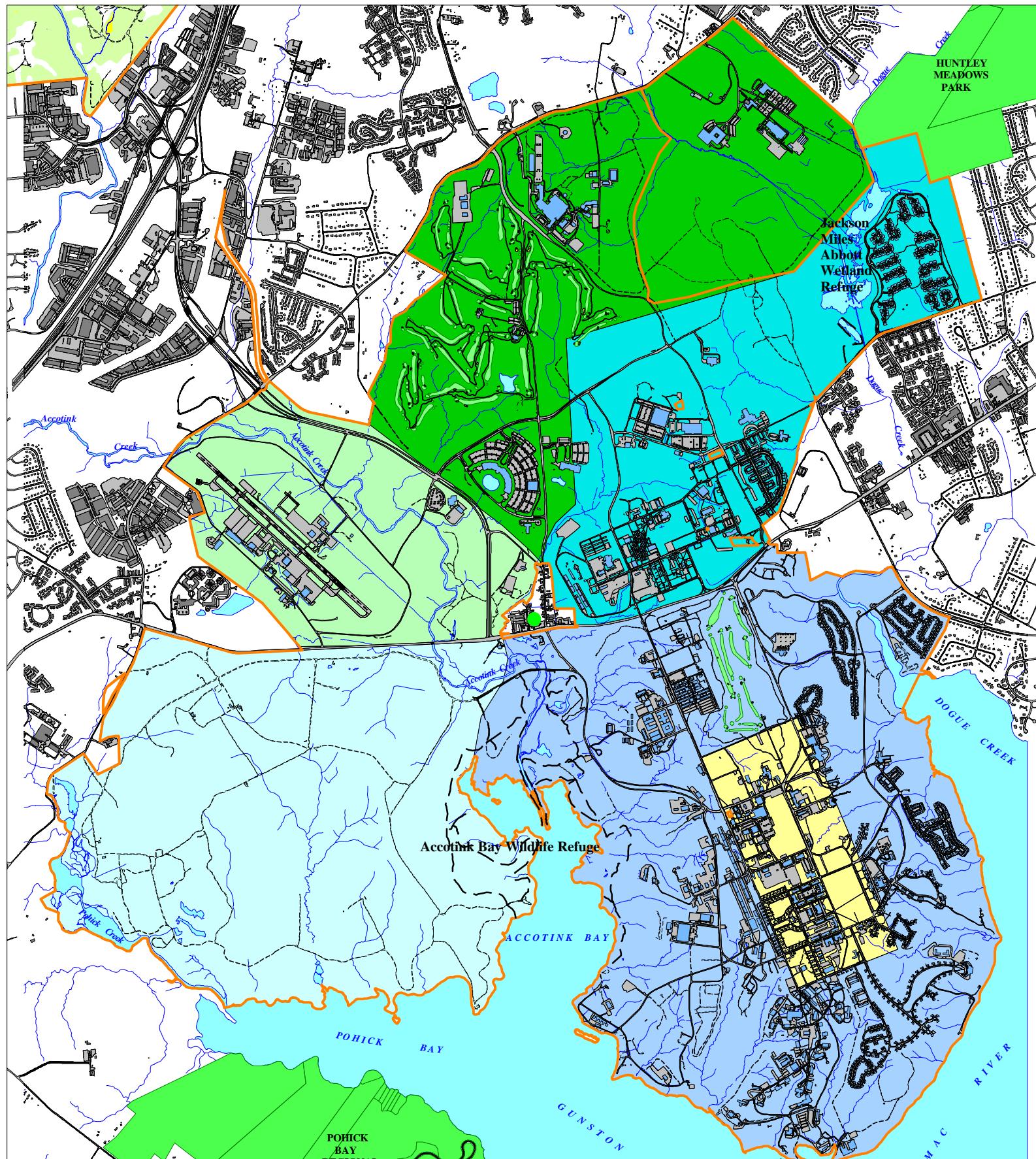
FORT BELVOIR GENERAL SITE MAP

SOURCE: FORT BELVOIR GIS CENTER, 2000
FIGURE: 2-2

FIGURE: 2.1

Graphic Scale in Feet

in Virginia State Plane Coordinate System

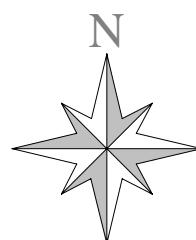


Environmentally Sensitive Area

Planning District

Upper North Post Area
 Lower North Post Area
 Davison Army Airfield Area

Southwest Area
 South Post Core Area
 South Post Area



DESIGNATED PLANNING DISTRICTS and ENVIRONMENTALLY SENSITIVE AREAS on FORT BELVOIR

SOURCE: WOOLPERT, 1995

FIGURE: 4.1

NOTE: PLANNING DISTRICTS and ENVIRONMENTALLY SENSITIVE AREAS ARE NOT MUTUALLY EXCLUSIVE

- Utility easements for power transmission lines, natural gas pipelines, communications lines and water and sewage. These generally include an off-road right-of-way and an access corridor for maintenance, repairs, and construction;
- Road rights-of-way. Held by the Virginia Department of Transportation (VDOT) along Backlick Road, Telegraph Road, Woodlawn Road, Beulah Street, US Route 1, and the Fairfax County Parkway (Va Route 7100);
- Elementary school operated and maintained by the Fairfax County Public School system.

The installation also contains or surrounds eight cemeteries, two of which have been listed in or evaluated as eligible for listing in the National Register of Historic Places. Except where indicated in Table 1, all of these burial grounds are listed in the Fairfax County Land Records as private, non-DA properties.

Historic Preservation Overview

National Historic Preservation Program

Several legislative acts mandate that Federal agencies are responsible for stewardship of the historic and cultural resources under their jurisdiction. The principal laws include:

- The National Historic Preservation Act (NHPA) of 1966, as amended;
- The National Environmental Policy Act (NEPA) of 1969;
- The Archeological and Historic Preservation Act (AHPA) of 1974;
- The American Indian Religious Freedom Act (AIRFA) of 1978;
- The Archeological Resource Protection Act (ARPA) of 1979; and
- The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990.

In addition to the laws themselves, Federal departments and regulatory agencies have issued guidelines and regulations that establish specific standards and procedures for implementing these laws. Appendix I of this ICRMP contains copies of the major laws and presents a list of web-sites through which information can be obtained on the most current amendments and modifications to these statutes. Copies of relevant federal legislation also can be found in the *Legal Source Book*, which is published for the Department of Defense (DoD) by the U.S. Army Corps of Engineers.⁸

Of these federal laws, the NHPA, with its subsequent amendments and guidelines, defines the basic Federal role in historic preservation. The law requires each Federal agency to establish a program to identify, evaluate, and nominate historic properties under its jurisdiction to the National Register of Historic Places, the nation's inventory of archeological sites, historic buildings and

structures, and other properties that are locally, regionally, or nationally significant. NHPA further requires that Federal properties listed in, or eligible for listing in, the National Register be managed in

Table 1: Cemeteries at U. S. Army Garrison Fort Belvoir

Cemetery Name	Area Location	Ownership/Responsibility
Woodlawn United Methodist	North Post	Private congregation
Lacey's Hill Cemetery	North Post	Private: ownership unknown
**Woodlawn, Religious Society of Friends (Quakers)	North Post	Private: congregation
Potter Family Cemetery	North Post	Private: family
Triplett Family Cemetery	HEC	Private: family
*Fairfax Family Burial Site	South Post	Fort Belvoir
McCarty Family Cemetery	Southwest Area	Fort Belvoir

*Included in National Register listed archeological site (44FX4)

**Included in National Register eligible Woodlawn Friends' Meeting property.

ways that consider the preservation of their historic, archeological, architectural, and cultural values. Sections 106 and 110 of the NHPA also provide that preservation costs may be included as project costs in all Federal agency undertakings.

Department of the Army (DA) Cultural Resource Management Program

The DA has outlined its responsibilities to cultural and historical resources in Army Regulation (AR) 200-4, *Cultural Resources Management*⁹ and Department of the Army Pamphlet (DA PAM) 200-4.¹⁰ These regulations supercede the Army's previous regulatory document, AR 420-40. AR 200-4:

- delineates the Army's policies, procedures, and responsibilities for protecting and managing cultural resources in compliance with Section 110(a) 2 of NHPA and other federal laws and regulations;
- charges installation commanders with developing cultural resource management programs to fulfill the requirements under NHPA;
- directs each installation to prepare an Integrated Cultural Resources Management Plan (ICRMP) to establish installation specific procedures for managing cultural resources; and
- establishes the relationship between Fort Belvoir's cultural resources program and the Department of the Army's command structure.

It is anticipated that AR 200-4 will be adjusted and revised in the year 2001.

Fort Belvoir Cultural Resources Management Program

Fort Belvoir's cultural resources include buildings, structures, and identified and potential archeological sites that relate both to the post's pre-installation history and its development as a military installation. Management responsibility for these resources currently is assigned to the Cultural Resource Manager (CRM), a position included within the Directorate of Installation Support (DIS). The cultural resources management program at Fort Belvoir:

- identifies and evaluates cultural resources and maintains an up-to-date inventory of historic properties;
- complies with NHPA, NEPA, all Federal laws, and Army regulations related managing cultural resources;
- ensures that current and planned installation programs, plans, and projects (e.g., master plans, environmental impact analysis, real property and maintenance, facilities construction site approvals, and other land use activities) are integrated with cultural resources protection initiatives;
- preserves and protects cultural resources within Fort Belvoir's mission;
- ensures that sound and cost-effective preservation techniques are used to manage historic buildings, districts, sites, objects, structures, and other cultural resources; and
- ensures that appropriate consultation procedures are followed at the earliest planning stage of any undertaking that might affect historic properties. During the consultation process, the nature of the undertaking is identified, its Area of Potential Effect (APE) is determined, historic properties in the APE are identified, and the direct and indirect effects of the undertaking on cultural resources are identified.

Fort Belvoir has a long record of stewardship towards its historic resources. The installation's present inventory of cultural resources has been generated by a series of architectural and archeological identification and evaluation studies that have included the development of an historic context; completion of an archeological disturbance study; completion of additional archeological identification and evaluation studies that have examined virtually the entire installation (Figure 8a) (Table 2); and a series of similar survey and evaluation efforts for the installation's historic buildings and structures (Table 3).

The Fort Belvoir Integrated Cultural Resources Management Plan (ICRMP)

Objectives

The Fort Belvoir Integrated Cultural Resources Management Plan (ICRMP) develops the substantive and procedural bases by which the installation operates and refines its existing cultural resource management program. The primary objective of the document is to support Fort Belvoir by providing specific procedures for project coordination, planning, and compliance within the larger framework of the installation's operations and mission. It also is intended to serve as the basis for a Programmatic Agreement (PA) among Fort Belvoir, the Virginia Department of Historic

Table 2: Archeological Studies Undertaken at U. S. Army Garrison Fort Belvoir, Virginia: 1970-1999

Date	Authors	Title	Summary/Comments
ND	Chatelain, Edward and Michael Johnson	<i>I-95 to Rt. 1 By-Pass Corridor</i>	Early version of Springfield By-Pass project. Pedestrian reconnaissance of two alternative routes, both running through Fort Belvoir. NB: Fort Belvoir denied access for this survey.
1976	Shott, George G.	<i>Belvoir Manor Archeological Study</i>	Phase II investigations of major dependencies at Belvoir Manor site, including brick clamps and infrastructure features such as drainage and cooling shafts. MA Thesis (GWU) also extant.
1977	Gardner, William M., and Kurt W. Carr	<i>An Archaeological Reconnaissance of a Proposed Railroad Spur Line at Fort Belvoir, Va.</i>	Pedestrian reconnaissance of a 15,000 ft x 60 ft right-of-way through northern sections of Fort Belvoir's training areas. One heavily disturbed mixed-component historic/prehistoric site found.
1977	Gardner, William M., Dennis Curry, and Kurt Carr	<i>Archaeological Reconnaissance of 90 Acres at the Fort Belvoir Family Housing Project, Fort Belvoir, Virginia</i>	Pedestrian reconnaissance of Woodlawn Family Housing Area. No sites recorded; area heavily disturbed and swampy.
1979	Chatelain, Edward, and Michael Johnson	<i>Preliminary Cultural Resource Reconnaissance of the Proposed Widening of Route 1 from Little Hunting Creek to Belvoir Road</i>	No sites identified within boundaries of Fort Belvoir
1982	Karell Archaeological Associates	<i>Springfield Bypass and Extension, Fairfax County, Virginia: Technical Report: Phase I Cultural Resources Investigations</i>	Pedestrian reconnaissance and judgemental subsurface testing with extreme southern segment of expressway route through Fort Belvoir. Four sites recommended for Phase II testing. EIS for USDOT/VDOT and earlier drafts also extant. DHR concurred with recommended testing.
1982	Karell Archeological Associates	<i>Springfield Bypass and Extension, Fairfax County, Virginia: Technical Report: Phase II Cultural Resource Investigations</i>	Intensive investigations of three prehistoric sites and one historic military training trench complex. Prehistoric sites mitigated under MOA between VDHR and VDOT.
1983	Israel, Stephen	<i>Archeological Reconnaissance: Triplett Homestead Site and Family Cemetery, Round Hill, Fort Belvoir, Fairfax County, Virginia</i>	Excavation of two .75 x 5 m test trenches revealed 20 th century debris in association with modern poured concrete foundation. Report recommended further Phase I testing north of Leaf Road (Present HECSA property).
1984	Johnson, Michael	<i>Fort Belvoir Life Care Community</i>	Pedestrian reconnaissance and judgmental shovel/trowel testing of retirement facility site identified military trenches; one prehistoric site; one 20 th century domestic scatter; old roadbeds. Further work recommended for Sites 220-222 and new site.
Date	Authors	Title	Summary/Comments
1984	LeeDecker, Charles.	<i>Cultural Resource Survey and</i>	Presents results of Phase I survey of environmentally

	Charles Cheek, Amy Friedlander, Teresa Ossim	<i>Evaluation at Fort Belvoir, Virginia</i>	defined “quadrats” and “required areas” on post, including Engineer Proving Ground. Classifies all archeological sites; offers recommendations for further work
1986	Henry, Susan L.	<i>Archeological Survey of the INSCOM Facility at Fort Belvoir, Virginia</i>	Letter report. Recommends Phase II evaluation of Site #109-1H2 if project design will disturb. DHR concurs (12/9/86)
1986	Johnson, Michael	<i>Expansion of Lower Potomac Pollution Control Plant</i>	Letter report. DHR concurs on No Effect determination (10/30/86)
1986	Johnson, Michael	<i>Mason Run Storm Drainage Improvements</i>	Letter report. DHR concurs on No Effect determination (6/20/86)
1986	Johnson, Michael	<i>Phase I Study of Rappel Tower Site</i>	Letter report. DHR concurs on No Further Work (5/21/86)
1987	DeCicco, Gabriel	<i>Phase I Archeological Reconnaissance of Proposed Construction Site of the HQ USACE</i>	Phase I survey found no cultural materials; recommended no further work.
1987	Henry, Susan L.	<i>Phase I Archeological Survey for the Historical Center and Museum, Humphreys Engineer Center, Fort Belvoir, Virginia</i>	Letter report. No historic materials; recommends monitoring of site development for prehistoric resources.
1988	Polk, Harding	<i>Disturbance Map Development: Fort Belvoir Historic Preservation Plan</i>	Visual inspection supplemented with archival data to identify disturbed areas at installation; limited subsurface testing to ground-truth conclusions. Disturbance map included. Combined with later Phase I reconnaissance (MAAR 1990-1992)
1988	Johnson, Michael	<i>A Preliminary Archeological Reconnaissance of the Fort Belvoir Shoreline, Fairfax County, Virginia</i>	Visual inspection of navigationally accessible portions of installation shoreline; identified 57 sites; recommended preventive maintenance and treatment of threatened sites; offered preliminary National Register assessments
1988	Ralph, MaryAnna, Jerome D. Traver, Kenneth O. Baumgardt	<i>A Preservation Plan for Fort Belvoir, Virginia</i>	Draft report only; completes RP3 process for installation (Aten 1980)
1988	Neumann, Thomas, et al.	<i>Phase I Archeological Survey of 262 Acres at Fort Belvoir, Virginia</i>	Phase I survey, including archival research and shovel testing, of proposed Defense CEETA facility site on Woodlawn Road. Identified 14 new sites; 3 previously recorded sites. Offered recommendations for further work. DHR recommends Phase II evaluation of 4 sites (11/6/87)
1989	Traver, Jerome, and Harding Polk	<i>Phase II Archeological Investigations of 9 Previously Identified Sites at Fort Belvoir, Virginia</i>	Describes Sites FX13, 672, 683, 1095, 1327, 1328, 1329, 1621 and 1622. Site 1328 at Castle Club potentially Nreliable
1989	Walker, Joan M. And William Gardner	<i>Phase I Archeological Survey, Telegraph Woods Sanitary Sewer Line, Fort Belvoir</i>	No sites identified in project corridor along western branch of Dogue Creek
1989	Stevens, J. S., and Joseph Balicki	<i>Archeological Investigations for the Proposed Location of the U. S. Army Corps of Engineers Headquarters to the Humphreys Engineer Center, Fort Belvoir</i>	Survey of HEC Site B documented one previously identified site (FX708 [not eligible]) and a late 19th-early 20 th century domestic site [not eligible]. No other cultural resources within 120 acre survey area.
Date	Authors	Title	Summary/Comments
1989	McLearen, Douglas, and Luke Boyd	<i>Phase I Cultural Resources Survey of Proposed Improvements to Route 618, Fort Belvoir, Fairfax County, Virginia</i>	Surface reconnaissance and shovel testing of low visibility areas. VDOT project.

Date	Authors	Title	Summary/Comments
1990	Thomas, Ronald, MaryAnna Ralph, and Evelyn Tidlow	<i>A Plan for Preservation and Interpretation of the Fairfax Ruins and Grave Site at Fort Belvoir, Fairfax County, Virginia</i>	Assesses previous work undertaken at Belvoir Manor site; recommends further testing of five areas (the White House, the brick clamp, the 1812 gun emplacements; gardens and woods southwest of house site)
1990	Ryder, Robin, Katherine Hanbury, and Luke Boyd	<i>Phase II Archeological, Architectural, and Historical Investigations of Three Sites Located Along Route 618 in Fairfax County, Virginia</i>	Evaluates Sites FX1589 (19 th -20 th century domestic site); FX1210 (Woodlawn Methodist Cemetery); and Friends' Meeting House. Last two eligible for NR listing; could not determine eligibility of FX1589. VDOT project.
1991	Traver, Jerome, and Harding Polk	<i>Phase II Investigations of Twelve Archeological Sites (44FX13, 672, 683, 1275, 327, 1328, 1329, 1621, 1622, 1654, 1655, and 1656)</i>	Concludes that sites 1327-1328, grouped as one due to their location on the same parcel (Castle Club), are National Register eligible. Recommends avoidance or data recovery.
1992	R. Christopher Goodwin & Associates, Inc.	<i>Phase I Archeological Investigation of the Proposed Alternative 4 ("East") Gunston Road Extension, Fort Belvoir, Fairfax County, Virginia</i>	No intact features or cultural materials within right-of-way; no sites identified. No further work recommended. DHR concurred on "No Effect" (5/22/1992)
1992	Blanton, Dennis, and Donald Linebaugh	<i>Phase I Cultural Resource Survey of a New Alignment of the Proposed Route 613 Project, Fairfax County, Virginia</i>	Survey of realignment of Beulah Road/Telegraph Road intersection. No new sites identified; all previously identified sites lie outside project area. VDOT project.
1992	Polk, Harding, Jerome Traver and Ronald Thomas	<i>A Phase I Survey of Fort Belvoir, Virginia (2 vols.)</i>	166 previously unidentified sites recorded, ranging from Archaic period through historic and military eras. At completion of this survey, Belvoir had 301 identified sites. DHR certified completion of Phase I survey (7/14/94)
1992	Miller, Orloff	<i>Phase IA Literature Search for Submerged Cultural Resources in Tompkins Basin, For Belvoir Military Reservation, Fairfax County, Virginia</i>	Study considered proposed dredge area in Accotink Bay; concluded that no prehistoric or significant historic resources were present. Noted WWII UXO in area. DHR concurs (7/12/94)
1992	Polk, Harding, Ronald Thomas, and Jerome Traver	<i>Phase I Investigations of Various Development Sites and Training Areas, Fort Belvoir, Virginia</i>	Continuation of 1992 Phase I installation-wide survey. At completion of this survey, Belvoir had 301 identified sites. DHR certified completion of Phase I survey (7/14/94)
1993 (Revised)	MAAR Associates, Inc.	<i>Phase II Archaeological Investigations at the Belvoir Ruins and Garden Sites, Fort Belvoir, Fairfax County, Virginia</i>	Limited Phase II testing to assess condition of previously excavated outbuildings and identify additional resources in untested areas. Identified "kitchen garden" area.
1993	Hill, Phillip, Ruth Overbeck, Kim Snyder and William Gardner	<i>Phase II Archeological Investigations at 44FX673, 1495, 1678, and 1784, Fort Belvoir, Fairfax County, Virginia</i>	Mid-l8th to 20 th century sites on proposed golf course expansion. Site 44FX1678 assessed as National Register eligible, and mitigation recommended. DHR does not concur; says "No effect" (4/22/95)
1993	Hill, Phillip, and William Gardner	<i>Phase II Archeological Investigations at 44FX1497 and 44FX 1913, Fort Belvoir, Fairfax County, Virginia</i>	Both sites have no integrity and are not Register eligible. DHR concurs (8/26/93)
1993	Galke, Laura and J. S. Stevens	<i>Archeological Investigations, US Army Garrison Fort Belvoir: Sites 44FX1907 and 1908 and Pohick Loop Handicap Access Trail</i>	Extended Phase I testing showed FX1907 to be not significant; Phase II evaluation of FX1908 revealed Register-eligible stratified Early - Middle Woodland site. DHR concurred (9/29/93)

1994	James River Institute for Archeology	<i>Archeological Investigations: U.S. Army Garrison Fort Belvoir, Site 44FX4, Belvoir Manor</i>	Continued research into National Register site. Studied garden outbuildings, unidentified structures, landscape features
1994	Williams, Martha and Ellen St. Onge	<i>Phase II Investigations of Site 44FX619 and 44FX 1942, Cheney School Outgrant Project, Fairfax County, Virginia</i>	Expanded Phase I and Phase II testing showed FX619 to be disturbed. FX1942 is early 20 th century African-American farmstead, assessed as National Register eligible. DHR does not concur on eligibility (10/11/94)
1995	Schwermer, Anne	<i>The Barnes/Owsley Site (44FX1326): Documentary Research and Phase II Survey</i>	Intensive Phase I located 18th century component, but no 17th century component. Recommended further testing
1996	Simons, Michael and John Clarke	<i>Phase II Archeological Investigations at Five Sites (44FX12, FX1305, FX1309, FX1314, FX1317), US Army Garrison Fort Belvoir, Virginia</i>	Sites FX12, 1305, 1309 and 1314 are National Register eligible shoreline sites. Site FX1317 has been destroyed.
1996	Feidel, Stuart, Elizabeth O'Brien, and Dana Heck	<i>Phase II Archeological and Historical Investigations, US Army Garrison Fort Belvoir: Sites 44FX635, 1333, 1677, and 1505</i>	Prehistoric sites 635 and 1333 assessed as not Register eligible; Sites 1677 and 1505, World War II military training trenches, were recommended as National Register eligible
1996	Simons, Michael and Martha Williams	<i>Phase II Investigations of Sites 44FX1340, 1344, 1672, 1674, 1925, and 1926, US Army Garrison, Fort Belvoir, Virginia</i>	National Register eligible sites include historic component of 44FX1340 and Late Archaic-Early Woodlandsite FX1925; all others not eligible.
1997	Fahey, Augustine	<i>GIS Data Development for Archeological Sites for US Army Garrison Fort Belvoir, Fairfax County, Virginia</i>	Develops project planning aid that depicts spatial distribution of archeological sites and links informational fields for each site
1997	Melhuish, Geoffrey and Martha Williams	<i>National Register Evaluation of the Triplett, Lacey's Hill and Woodlawn United Methodist Cemeteries, Fort Belvoir, Fairfax County, Virginia</i>	Cemeteries evaluated as archeological and architectural sites. None is individually eligible; Woodlawn and Lacey's Hill may contribute to a future Woodlawn African-American Historic District.
1997	Simons, Michael	<i>Phase II Archeological Investigation of 44FX1898 and Site Delineation of 44FX1935, US Army Garrison, Fort Belvoir, Fairfax County, Virginia</i>	FX1898 assessed as not eligible; FX1935 is out of Area of Effect. Phase II evaluation recommended for new, potentially eligible military training trenches.
1999	Simons, Michael	<i>Phase I Investigations of Telegraph Road Widening Project</i>	Letter report only for support of EIS. No cultural resources located in Area of Effect
1999	Parsons Engineering, Inc.	Phase III Investigations of Sites 1326/1327, Castle Club, Fort Belvoir, Virginia	In progress

Table 3: Architectural Studies Completed for U.S. Army Garrison, Fort Belvoir, Virginia

Date	Authors	Report Title	Summary/Contents
1983	Friedlander, Amy	<i>Senior Officers' Housing Historic District, National Register of Historic Places Nomination</i>	The Senior Officers' Housing area contains 59 2 ½ story brick Colonial Revival style houses lining curvilinear streets. The study assessed the district as significant under Criterion A on the basis of its architecture. This district later was included in the Fort Belvoir Historic District nomination.
1984	LeeDecker, Charles, Charles Cheek, Amy Friedlander, and Teresa Ossim	<i>Cultural Resource Survey and Evaluation at Fort Belvoir, Virginia</i>	Inventoried and evaluated approximately 200 built resources constructed 1917 - 1957 and classified them into 4 categories. The buildings were organized by property type and compiled on 36 Historic American Building Survey/Historic American Engineering Record (HABS/HAER) inventory cards.
1988	Thomas, Ronald, MaryAnna Ralph, Kenneth Baumgardt	<i>An Overview of the Cultural Contexts of Fort Belvoir</i>	Presents an overview of the installation's 20 th century military history with an examination of archival sources and a literature review.
1990	Ralph, MaryAnna, Jerome Traver, and Kenneth Baumgardt	<i>A Preservation Plan for Fort Belvoir, Virginia</i>	Contains a reconnaissance level survey of all buildings and structures built at Fort Belvoir prior to 1946. Resulted in the preparation of a revised National Register nomination for the Fort Belvoir Historic District, plus nominations for the US Army Package Power Reactor and the Camp Humphreys Pump Station and Filter Building.
1992	Friedlander, Amy, Barbara Engel, Sheryl Hack, Kenneth Baumgardt, and Sandra DeChard	<i>Camp A.A. Humphreys Pump Station and Filter Building: National Register of Historic Places Nomination</i>	The pump station and water filtration plant (Buildings 1400) is Fort Belvoir's oldest permanent structure, and one of the few remaining vestiges of Camp Humphreys. The single-story pump station was added in 1936. The buildings are significant because they illustrate the development of support facilities at World War I cantonments, and for technological advances in drinking water purification.
1992	Friedlander, Amy, Sheryl Hack, and Judith Rosentel	<i>U.S. Army Package Power Reactor: National Register of Historic Places Nomination</i>	Built in 1957 the U.S. Army Package (Nuclear) Power Reactor possesses exceptional significance as the Army's prototype nuclear generating plant (Criteria A and G). The reactor complex includes a 30-acre fenced area that encloses the SM-1 Plant (Building 372) and support buildings.

Date	Authors	Report Title	Summary/Contents
1992	Hack, Sheryl and Lauren Archibald	<i>Fort Belvoir Historic District: National Register of Historic Places Nomination.</i>	The Fort Belvoir Historic District includes the administrative and residential core of the Post, including the Parade Ground and associated landscape features. Significant for its Colonial Revival architecture and community planning.
1993	Woolpert, Inc.	<i>Real Property Master Plan, Fort Belvoir, Long-Range Component</i>	Contains operational information and long-term planning data useful for cultural resource managers and planners
1993	Hanbury, Evans, Newill, Vlatta and Company	<i>Historic Components Guidebook Series</i>	Developed in response to the Stewardship Standards adopted by MDW for preserving and rehabilitating historic family quarters, these guidebooks identify historically significant architectural elements and specify compatible materials for family quarters at Fort Belvoir. They also outline procedures to be followed during preservation or maintenance work.
1995	Harnsberger, Douglas and Sandra Hubbard	<i>Thermo-Con House: National Register of Historic Places Nomination</i>	Designed by the industrial architectural firm of Albert Kahn and Associates, Inc. and built in 1949, this building was found to possess exceptional significance under Criterion C for its unique method of construction. The house is the only structure of its kind constructed by the Army COE.
1995	Harnsberger & Associates, P.C.	<i>Fort Belvoir Historic Building Survey</i>	Presents an architectural survey of 33 non-residential historic buildings to document existing conditions and provide specific preservation and maintenance recommendations. The conditions assessment survey examined the interior and exterior of each building, including plumbing, mechanical, and electrical systems. The report presents general information on each building; discusses its principal building materials, character-defining features and building alterations; summarizes existing conditions; and recommends prioritized repair and rehabilitation strategies.
1996	Gilmore, Lance	<i>Camp A.A. Humphreys Pump Station and Filter Building: National Register of Historic Places Nomination</i>	This nomination contains a revised architectural description, statement of significance.
1996	Harnsberger, Douglas and Sandra Hubbard	<i>Fort Belvoir Historic District: National Register of Historic Places Nomination.</i>	This revised district nomination includes 196 contributing and 11 non-contributing buildings. The nomination contains expanded architectural descriptions, statement of significance, and boundary justification sections.

Date	Authors	Report Title	Summary/Contents
1996	Harnsberger, Douglas and Sandra Hubbard	<i>U. S. Army Package Power Reactor: National Register of Historic Places Nomination</i>	The revised nomination includes several contributing buildings
1996	Harnsberger & Associates, Architects	<i>Fort Belvoir Historic Buildings Survey Addendum for Buildings Between 1945 and 1950</i>	Architectural survey of 45 buildings and structures constructed between 1945 and 1950. Three buildings were designated as “contributing” to the Fort Belvoir Historic District; three structures associated with Cold War activities were identified as contributing to the U. S. Army Package Power Reactor Multiple Property; the remaining 39 buildings were evaluated as “non-contributing” resources that lacked integrity or association with important themes. All information was recorded on IPS forms.
1998	Dames & Moore	<i>Environmental Assessment, Thermo-Con House (Building 172) Rehabilitation, Fort Belvoir, Virginia</i>	Provided archival research and analysis of environmental impacts associated with rehabilitating this structure. Report concluded that the rehabilitation would not adversely affect the quality of the human environment and did not require preparation of an EIS.

Resources (VDHR), the Advisory Council on Historic Preservation (AChP), and other interested groups. A draft of this PA is appended to this ICRMP.

In compliance with requirements established in AR 200-4 and DA-PAM 200-4, the Fort Belvoir ICRMP:

- provides a summary overview of the mission and history of the installation;
- furnishes an inventory and evaluation of all known and potential archeological and architectural resources;
- defines appropriate prehistoric and historic contexts for the installation;
- identifies and summarizes applicable cultural resource management legislation, regulations, standards, and guidelines;
- identifies general types of undertakings and specific planned undertakings that may affect cultural resources at Fort Belvoir;
- examines the installation's current administrative, operations, and maintenance procedures as they relate to cultural resources;
- recommends strategies for managing, maintaining, and treating cultural resources in compliance with Federal cultural resource management laws and regulations and DoD regulations; these recommendations are presented in Chapter V of this ICRMP. Complete implementation of the recommendations in this document may require additional personnel, further studies, and/or additional funding.
- provides installation-specific recommendations that help identify appropriate treatment options for archeological and architectural resources; and
- develops standard operating procedures for internal installation coordination and external Section 106 consultation for undertakings that may affect cultural resources.

The ICRMP should be integrated with other installation-wide planning documents, including the Fort Belvoir Real Property Master Plan-Long Range Component,¹¹ Fort Belvoir Installation Design Guide,¹² and the Fort Belvoir Integrated Natural Resources Management Plan, as those documents are updated. Comprehensive, integrated, and proactive planning efforts ensure compliance with cultural resource laws and regulations during the early stages of project development; reduce the potential for costly delays of undertakings; and permit avoidance or mitigation of possible negative impacts on eligible or listed resources. Adoption of a Programmatic Agreement (PA) prepared in accordance with (DA PAM) 200-4 also can reduce or eliminate the need for separate Section 106 consultations for repetitive or maintenance activities.

How to Use the Fort Belvoir ICRMP

The two-volume Fort Belvoir ICRMP is composed of an Executive Summary, five principal chapters, and six technical appendices. The Executive Summary reflects a synthesis of the status of Fort Belvoir's cultural resource management program at this time. It is designed to be pulled out of the volume for distribution to interested staff and command, as necessary. The plan (Volume I) includes an Introduction; discussions of Cultural Resources Identification and Evaluation, Planning, and Management Strategies; and an Action Plan with recommendations. The six appendices (Volume II) include an annotated list of preservation legislation, regulations, standards, and guidelines; a full prehistoric and historic context for the installation; nomination forms for the installation's National Register listed and eligible historic properties; compliance milestones for Fort Belvoir's cultural resource management projects; a Draft Programmatic Agreement, and the credentials of the Key Personnel who prepared the document.

The contents of the chapters and appendices in this document are based upon the three general principles that underlie cultural resource management: (1) resource identification and evaluation; (2) resource management; and (3) resource treatment.

Resource Identification and Evaluation.

Information about the current status of Fort Belvoir's identified cultural resources is presented in Chapter II, *Cultural Resources Identification and Evaluation*. Specifically, that chapter:

- establishes a brief context for the cultural resources of the installation by describing the natural setting and cultural history of the post;
- reviews the history of cultural resource management efforts at the installation;
- summarizes the currently identified archeological and architectural resources at Fort Belvoir, including the types and distribution of these resources and their National Register status; and
- identifies areas that may require additional archeological and architectural identification or evaluation efforts.

Appendix IV presents the complete nomination forms for the installation's National Register-listed or eligible historic properties.

Continued identification and evaluation efforts are addressed in Chapter IV, *Management Strategies*, and recommendations for further identification and evaluation studies also may be found in Chapter V, *Action Plan*.

Resource Management.

The general legislative, regulatory, and administrative framework that affects cultural resource compliance activities at Fort Belvoir is presented in Chapter III, *Cultural Resources Planning*. Specifically, this chapter discusses:

- a summary review of applicable preservation legislation and regulations;
- an overview of Fort Belvoir's organizational structure and delineation of responsibility for cultural resources, in accordance with AR 200-4;
- a discussion of the types of undertakings that may affect cultural resources at Fort Belvoir; and
- a list of specific projects proposed within the next five-year planning period that may require consultation under Section 106 of NHPA.

Resource Treatment

Chapter IV, *Management Strategies*, provides a general overview of strategies for managing the cultural resources at Fort Belvoir. These include:

- continued identification and evaluation efforts required under Sections 106 and 110 of NHPA;
- personnel training in cultural resources management;
- treatment strategies for archeological and architectural historic properties;
- development of a Programmatic Agreement (PA); and
- adoption of standard operating procedures related to common cultural resource issues, including:
 1. Section 106 Compliance (1999 revisions);
 2. Assessing Effects on Historic Properties;
 3. Public Participation During the Section 106 Consultation Process;
 4. Archeological Resource Protection Act (ARPA) Compliance;
 5. National Environmental Policy Act (NEPA) Compliance;
 6. Native American Graves Protection and Repatriation Act (NAGPRA) Compliance;
 7. American Indians Religious Freedom Act (AIRFA) Compliance;
 8. Emergency Procedures for Unexpected Discoveries of Archeological Deposits;
 9. Emergency Procedures for Architectural Resources; and
 10. Economic Analysis for Demolition of Historic Buildings

Specific recommendations for enhancing the efficiency and effectiveness of Fort Belvoir's cultural resource management program are presented as goals in Chapter V, *Action Plan*. These include:

- enhancement of present planning procedures and policies;
- continuing efforts at identification and evaluation of historic resources;
- training of personnel in the most current cultural resource management developments;
- rehabilitation and maintenance of the installation's historic built resources; and
- negotiation of a Programmatic Agreement to streamline consultation requirements for routine undertakings.

REFERENCES CITED

1. Woolpert, Inc., *Real Property Master Plan, Fort Belvoir, Long-Range Component - 1993*. (Woolpert, Inc., 1993), pp. 1-1, 2-1.
2. STV, Incorporated, *Master Plan for Humphreys Engineer Center* (STV, Inc., for Baltimore District, U. S. Army Corps of Engineers, 1998).
3. Robert McCall, personal communication, November 1998.
4. Woolpert, Inc., 1993, pp. 3-11.
5. Ibid., pp. 6-1, 6-3, 6-4.
6. Ibid.
7. Ibid., p. 2-4.
8. Ibid., pp. 6-1, 6-3, 6-9.
9. Ibid., pp. 6-1, 6-3, 6-4, 6-8, 6-24.
10. U.S. Army Corps of Engineers, Fort Worth District, *Legal Source Book* (TRC Mariah Associates, Inc., 1994).
11. Department of the Army (DOA), *Cultural Resources Management: Army Regulation 200-4* (Washington, D.C.: Headquarters, Department of the Army, 1998).
12. Department of the Army (DOA), *Cultural Resources Management*. Department of the Army Pamphlet 200-4 (Washington, D.C.: Headquarters, Department of the Army, 1998).
13. Woolpert, Inc., 1993.
14. Woolpert, Inc., *Real Property Master Plan, Fort Belvoir, Installation Design Guide: 1995*. (Woolpert, Inc., 1995).

CHAPTER II

CULTURAL RESOURCES

IDENTIFICATION AND EVALUATION

Introduction

This chapter summarizes the current status of cultural resources at Fort Belvoir by:

- presenting the natural setting and historic context that have determined the nature and distribution of installation's cultural resources;
- reviewing previous cultural resources investigations undertaken at the installation; and
- providing an overview and assessment of the archeological and architectural resources currently identified on the installation, including those listed in or eligible for listing in the National Register. The general and specific recommendations for program development presented in Chapter V are based partly upon the assessment contained in this chapter.

Supplementary information related to issues discussed in this chapter is contained in two appendices of this ICRMP. Fort Belvoir's development is organized chronologically regional and installation-specific prehistoric and historic contexts that provide an organizational framework and describe patterns or trends in history against which the significance of architectural and archeological resources or groups of resources is understood; Appendix II presents fully developed, regional prehistoric and historic contexts for the installation. In addition to considering a property's integrity, historic associations, architectural or engineering values, or information potential, the National Register Criteria for Evaluation (36 CFR 60.4 [a-d]) base assessments of the significance of cultural resources on their relationship to appropriate prehistoric or historic contexts.¹

Complete forms for Fort Belvoir's National Register listed and eligible archeological and architectural resources are contained in Appendix III. The National Register of Historic Places lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture; such properties may be important on a local, state, or national level. Federal preservation law requires that resources listed in or eligible for listing in the National Register be considered in Fort Belvoir's current management procedures.

Natural and Cultural Setting: Fort Belvoir's Changing Landscape

Geology and Topography

The Belvoir peninsula lies within the Atlantic Coastal Plain physiographic province, an area of unconsolidated Cretaceous sediments that represents an ancient riverine environment. Sediments consist primarily of deposits of sand, silt, clay, and gravel and are characterized by abrupt changes in rock formation.²

The installation is bounded on the south and east by the Potomac River and on the west by the Pohick Creek. Three watersheds -- Dogue, Accotink, and Pohick creeks – drain the installation and discharge directly into the Potomac River. Accotink Creek flows through the middle of the installation in a south-southeasterly direction. The headwaters of some Dogue Creek tributaries rise within the Humphreys Engineer Center, and flow south past Woodlawn and River Villages before entering the Potomac. Pohick Creek drains the western portion of the installation, primarily Davison Airfield. Accotink and Pohick bays are small tidal estuaries that bracket the Southwest Area of the post, and flow into Gunston Cove, a major estuary of the Potomac River.³

Topography at the installation ranges from flat terrain along the streams to smooth uplands and V-shaped valleys that rise from the floodplains. However, three centuries of continuous agricultural activity followed by military engineering activities have modified many of the post's landforms. In particular, the crests of entire upland ridges were leveled to create areas suitable for construction of a large-scale military enclave. At present, elevations on the installation range from less than one foot above mean sea level (amsl) along the Potomac River shoreline to 230 feet amsl along Beulah Street between Woodlawn and Snyder roads. Steep slopes overlook the headwaters and tributaries of the three major drainages; construction activities on severe or unstable slopes are prohibited on Fort Belvoir.⁴

Soils. The soils at Fort Belvoir represent four associations, three of which are typical coastal plain sediments, and one on the crystalline rock of the Piedmont upland. Matapeake-Mattapex-Woodstown soils occur on low marine terraces, and have formed from sand, silt, and clay that originated in the lower Coastal Plain. Poorly drained to well-drained, level, Beltsville-Elkton-Sassafras soils comprise the principal association at the installation; historically, these sandy soils were considered prime for cultivation of tobacco and grains. In 1963, approximately 19 per cent of the installation (1,600 ac) still was classified as prime farmland.⁵

The Hilly and Steep land-Woodstown-Matapeake association is present primarily along escarpments and steep slopes near streams in the lower Coastal Plain; at Fort Belvoir, these soils are found along the headwaters of Dogue Creek in the area around the Humphreys Engineer Center (HEC). Louisburg-Appling-Worsham soils characterize the Accotink drainage; soils in this association also are found principally on hilly and steep relief terrain.⁶ Historically, the heavily wooded slopes of the Belvoir peninsula were exploited for their timber.

Fort Belvoir's soils are ranked as "slight," "moderate," and "severe" in terms of the difficulties they pose for contemporary site development. Soils with the greatest potential for creating development problems generally are located along streams, creeks, and waterways; in general, these areas have been left as "unimproved" or have been utilized for specialized training activities like bridge building and amphibious landing practice.

Vegetation. Approximately 47 per cent (4,100 acres) of the installation consists of unimproved, naturally vegetated areas and ponds. Secondary growth forests cover the most of the unimproved areas of the Post, including much of the North Post and the western portion of the South Post. A mixture of oak, pine, bottomland hardwood, oak-poplar, and sweet gum-poplar characterizes the primary species represented.⁷

Cultural context. The long history of human use of the land that today comprises Fort Belvoir has produced the installation's present landscape. Prehistoric peoples traversed the region as early as 10,000 years ago, and some permanent to semi-permanent prehistoric villages, accompanied by rudimentary agriculture, may have been established in the region as early as 2,100 before present. Such settlements would have been confined largely to broad stream floodplains or along the Potomac River shoreline. The type of agriculture practiced by the aboriginal inhabitants of this region involved only minimal changes to the area's topography or vegetational cover.

Some permanent Euro-American settlement occurred in the Belvoir area during the late seventeenth century. Full agricultural development of the Potomac River shoreline and adjacent interior areas began during the eighteenth century, when the core 2,000 acre area of present-day Fort Belvoir was developed as William Fairfax's plantation of Belvoir Manor.

The primary landuse in the Belvoir area through the end of the nineteenth century was farming. On eighteenth and early nineteenth century plantations, relatively level areas of arable soils were cleared, while steeply sloped sections remained largely uncleared and served as pasture land or so-called "timber lots." Towards the middle of the nineteenth century, the large landholdings that characterized the plantation period were subdivided and converted into small farms, a process that continued for nearly a century thereafter. Urban and industrial development was confined to the development of small villages, like Accotink, that coalesced around the intersections of major improved roads and/or the locations of small industrial enterprises like grist- and sawmills. Because of the increased numbers of small farms, land development was somewhat more intensive, but the primary elements of landscape modification remained primarily timber harvesting, small-scale agriculture, and construction of transportation networks, principally roads.

In 1910, the Federal government acquired 1,500 acres of the former Belvoir plantation. The United States Army first used the Belvoir peninsula in 1915 as a summer training camp and rifle range for engineers stationed at Washington Barracks (now Fort McNair). In 1917, the training camp was modified to become a major installation known as Camp A. A. Humphreys,⁸ and it gained permanent status after World War I as the Army's Engineer Training Center. The installation's physical plant and geographic area expanded continuously through the end of U.S. involvement in Vietnam (1975).

The establishment and expansion of the major military installation resulted in major modifications to the previously agrarian cultural landscape of southeastern Fairfax County. The many small farms that had characterized the area were eliminated, and their owners were moved elsewhere. New transportation networks were expanded into the area and existing roads were improved. To provide suitable sites for building the structures needed to house, administer, and train large numbers of military personnel, large land areas were graded and filled, and designated training activity areas were established. The effects of these military activities still are visible today in the historic buildings and "created" landscapes that punctuate areas of the Post; in features, such as the road-bed of the Camp Humphreys railroad spur line with its attendant bridges and abutments; in landscape features, such as the military training trenches and former obstacle courses that still can be found in relatively undeveloped areas of the installation; and in the cemeteries and archeological

signatures of the eighteenth and nineteenth century farm complexes that dot Fort Belvoir's present landscape.

Previous Cultural Resources Investigations

Fort Belvoir's current inventory of cultural resources is the result of a series of investigations undertaken to identify and evaluate significant archeological and architectural resources within the installation boundaries. Although interest in, and identification of, historic resources at the installation began during the 1920s, systematic programs of site identification and evaluation were not initiated until the 1980s. The reports that document these identification and evaluation studies are housed in various repositories, including the Virginia Department of Historic Resources (VDHR), the Archaeological Services Branch of the Fairfax County Park Authority, the Virginia Department of Transportation (VDOT), the Directorate of Installation Support (DIS) at Fort Belvoir, and the Environmental Division of the Humphreys Engineer Center (HEC). Tables 2 and 3 present an annotated listing of all known archeological and architectural projects undertaken at the installation, including the Engineer Proving Ground (EPG)(Appendix V), since ca. 1960.

Archeological Investigations. Fort Belvoir's archeological resources have been investigated for over 70 years. These studies have included:

- Investigations of William Fairfax's eighteenth century plantation, Belvoir Manor, beginning with the 1930s excavations that resulted in the designation of the installation as Fort Belvoir. Subsequent studies^{9, 10, 11} placed the Belvoir Manor Ruins and Fairfax Gravesites on the National Register of Historic Places and provided data for public interpretation.
- Identification reconnaissance surveys during the 1950s and 1960s by interested individuals assigned to the installation, resulted in the recordation of prehistoric archeological sites with the Virginia Department of Historic Resources.
- Systematic efforts to identify and to evaluate all of the historic cultural resources at Fort Belvoir (Table 1). To date, there have been seven such comprehensive studies (Table 2). Of 15 Section 106 compliance files at the DIS, the Virginia Department of Historic Resources (VDHR) concurred with seven Findings of No Effect or No Significant Effect (FONSI) based on these surveys (Appendix IV).
- A disturbance study, an historic context, and an archeological reconnaissance and identification study for all previously unsurveyed and undisturbed areas of the installation.^{12, 13, 14, 15, 16} Figure 4a depicts the surveyed and unsurveyed areas of the installation, utilizing data obtained from the above-cited reports, and including additional survey efforts since 1992. Except for a small area adjacent to Davison Air Field, all areas labeled as "unsurveyed" apparently were assessed as "disturbed." In 1994, VDHR confirmed that Fort Belvoir had satisfactorily completed archeological identification studies for the installation.¹⁷
- Identification and/or evaluation studies for project-specific undertakings, including those commissioned by the installation for Section 106 compliance

and those undertaken by civilian agencies (e.g., the Virginia Department of Transportation [VDOT]) and other military agencies (e.g., the HEC).

Figure 4a.

Unavailable at this time, the map can be obtained by contacting the Fort Belvoir Environmental Natural Resource Department.

- Creation of a Geographic Information System (GIS) planning layer for the installation's Environmental and Natural Resources Branch,¹⁸ utilizing the Armed Forces Tri-Service Spatial Data Standards. At the time of that review, the installation contained 301 identified archeological sites; the one site (Belvoir Manor Ruins and Fairfax Gravesite [44FX4]) that is listed in the National Register of Historic Places; and 10 sites (out of 40 whose eligibility had been assessed) that have been assessed as eligible for listing in the National Register.¹⁹ Since that study, one additional site has been recorded, raising the total number of sites to 302, in addition three more sites were evaluated, raising the total to 11 eligible sites.

Architectural and Historical Investigations. Numerous architectural and historical investigations have been completed at Fort Belvoir (Table 2). These include:

- reconnaissance-level architectural surveys and historic building evaluation studies^{20, 21}.
- preparation and revisions of National Register nominations for the Fort Belvoir Historic District, the U.S. Army Package Power Reactor, the Camp A.A. Humphreys Pump Station and Filter Building, and the Thermo-Con House).^{22, 23, 24}
- preparation of a Historic Preservation Plan²⁵
- building-specific studies, including conditions assessment surveys and Historic Quarters Component Guidebooks;^{26, 27, 28} and
- nationwide studies of military installations.

Table 3 presents an annotated list of the architectural identification and evaluation studies and National Register nominations.

Relevant Agreements. The nationwide studies listed in the table are particularly relevant to the built resources at Fort Belvoir. Between 1986 and 1992, the Department of Defense (DoD) documented World War II mobilization temporary buildings (1939 to 1945) under the terms of a Programmatic Memorandum of Agreement (PMOA) among the DoD, the Advisory Council on Historic Preservation (AHP), and the National Conference of State Historic Preservation Officers (NCSHPO). The PMOA was precipitated by a Congressional directive authorizing the demolition of World War II temporary buildings at DoD facilities. DoD determined that these resources might meet the Criteria of Eligibility for the National Register of Historic Places (36 CFR 60.4). The PMOA, negotiated to mitigate the removal of the buildings, included the preparation of Historic American Building Survey/Historic American Engineering Record (HABS/HAER) documentation on prototypical World War II temporary building types. The PMOA satisfied DoD's Section 106 responsibilities for considering World War II temporary buildings.

At Fort Belvoir, VDHR reviewed the installation's collection of World War II temporary structures and found that all were included under the provisions of the PMOA. Many of Fort Belvoir's World War II temporary structures since have been removed and replaced with permanent structures.

Guidance Documents. Cold War studies also have been undertaken as part of Legacy's Cold War Task Area. One study, *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties*,²⁹ presents a national historic context for the U.S. Army's military-industrial involvement during the Cold War (1946-1989). According to the evaluation criteria, resources of exceptional significance under Criterion Consideration G include those properties with a **direct association** with major Army activities and missions. Resources constructed as administrative, maintenance, storage, and housing and community support structures generally do not satisfy the criterion consideration. The study is useful for cultural resources managers at Fort Belvoir in assessing the relative significance of the installation's Cold War resources that may be eligible for listing in the National Register.³⁰

Inventory of Archeological Resources at Fort Belvoir

Documented Archeological Resources

A total of 302 archeological sites have been identified at Fort Belvoir.^{31, 32, 33, 34, 35} One archeological site, the Belvoir Manor Ruins and Fairfax Gravesite (44FX4), is listed in the National Register of Historic Places. The site represents the eighteenth century plantation complex built by William Fairfax, and includes the remains of the manor house, the plantation office; the kitchen/laundry building; a stable/coach house; two garden houses; the brick clamps utilized during construction of the manor house; and the gravesite of William Fairfax and his second wife.

A total of 177 archeological sites at Fort Belvoir have been assessed as potentially eligible for listing in the National Register,^{36, 37} but have not been assessed to determine their National Register eligibility. Although these sites are found in all undeveloped or lightly developed areas of the installation, the most intensive concentration lies within former training areas on Pohick Neck between Accotink and Pohick creeks. Forty-three sites have been evaluated formally to assess their eligibility for listing in the National Register; of these, 11 have been assessed as National Register eligible. Table 4 presents summary data on the status of all archeological resources on the installation; Table 5 presents basic data for the National Register eligible sites.

Table 4: Summary of Archeological Site Eligibility and Assessment Status, U. S. Army Garrison Fort Belvoir, Virginia

Register /Evaluation Status	Number	Per Cent
Determined not eligible	113	37.4
Potentially eligible; not evaluated	177	58.6
Determined eligible	11	3.6
Register listed	1	0.3
Totals	302	99.9

Table 5. National Register Listed, Eligible, and Potentially Eligible Archeological Sites at Fort Belvoir

Site Number	Site Chronology	Site Type/Function	Investigators	Comments
44FX4	Historic: 18th century	Plantation Complex	Shott; MAAR.; JRI, Inc.	Listed in National Register, 1973
44FX12	Prehistoric: Early Archaic - Late Woodland	Seasonal occupation site	MAAR, Inc.; Fairfax County Heritage Resources: RCG&A	Tested/evaluated
44FX1305	Prehistoric: Middle Archaic - Early Woodland	Unidentified	MAAR, Inc.; Fairfax County Heritage Resources: RCG&A	Tested/evaluated
44FX1309	Prehistoric: Middle Archaic - Late Woodland	Unidentified	MAAR, Inc.; Fairfax County Heritage Resources: RCG&A	Tested/evaluated
44FX1314	Prehistoric: Middle Archaic - Late Woodland	Unidentified	MAAR, Inc.; Fairfax County Heritage Resources: RCG&A	Tested/evaluated
44FX1328	Prehistoric: Late Archaic - Early Woodland Historic: 18th century	Prehistoric: Unidentified Historic: domestic	MAAR, Inc.; Fairfax County Heritage Resources; Dames and Moore 1999	Combined with 44FX1327; Mitigated
44FX1340	Prehistoric: Middle Archaic - Late Woodland Historic: 18th century	Prehistoric: Unidentified Historic: domestic	MAAR, Inc.; Fairfax County Heritages Resources; RCG&A	Evaluated; eroding
44FX1505	Historic: 20th century	Military training trenches	MAAR, Inc.; Milner	Evaluated
44FX1677	Historic: 19th century	Domestic	MAAR, Inc.; Milner	Evaluated
44FX1908	Prehistoric: Early - Mid Woodland	Unidentified	MAAR, Inc.; Milner	Evaluated
44FX1925	Prehistoric: Late Archaic Early Woodland	Unidentified	MAAR, Inc., RCG&A	Evaluated
44FX457	Prehistoric	camp	Karell Associates	Mitigated/Excavated; Destroyed Fairfax Co. Parkway
Accotink Prehistoric Site	Prehistoric	camp	Karell Associates	Mitigated/Excavated; Destroyed Fairfax Co. Parkway
Kernan Run Site	Prehistoric	Unknown	Karell Associates	Mitigated/Excavated; Destroyed Fairfax Co. Parkway
44FX9	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX10	Prehistoric: Late Archaic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX11	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX35	Prehistoric	Unidentified	Unidentified	Tested (Phase I);

				unevaluated
44FX459	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX 461	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX545	Prehistoric	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX627	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX629	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX631	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX637	Prehistoric	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX640	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX641	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX642	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX663	Prehistoric	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX669	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX681	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX682	Prehistoric	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX705	Prehistoric	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX739	Historic	Unidentified	Soil Systems, Inc. 1983	Tested (Phase I); unevaluated
44FX1080	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1303	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1310	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1318	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1319	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1320	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1321	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1326	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1330	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1330	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated

44FX1331	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1335	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1336	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1337	Historic	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1339	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1341	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1342	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1357	Prehistoric	Unidentified	Unidentified	Tested (Phase I); unevaluated
44FX1433	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1500	Historic; Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1502	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1503	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1589	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1630	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1631	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1632	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1633	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1635	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1636	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1638	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1642	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1645	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1646	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1655	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1656	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1659	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated

44FX1687	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1693	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1697	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1700	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1701	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1704	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1705	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1707	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1711	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1712	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1718	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1723	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1808	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1809	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1810	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1811	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1812	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1815	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1816	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1900	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1901	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1902	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1902	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1903	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1904	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1905	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated

44FX1909	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1910	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1914	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1917	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1919	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1920	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1921	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1927	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1929	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1930	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1931	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1933	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1934	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1935	Prehistoric: Late Woodland	Unidentified	MAAR, Inc.	Excavated
44FX1936	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1939	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1941	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1945	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1946	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1948	Historic	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX1949	Prehistoric	Unidentified	MAAR, Inc.	Tested (Phase I); unevaluated
44FX2230	Historic: 20th century military	training trenches	Simons and Williams, 1997	Tested (Phase I); unevaluated

Summary Assessment: Archeological Resources

Fort Belvoir has virtually completed archeological resource identification for the entire installation (Figure 4a). In addition, the installation has completed an extensive series of site evaluation studies (Table 1).³⁸ Archeological issues yet to be resolved include:

- Lack of a systematic identification survey for Area R-1 on the southeastern perimeter of Davison Airfield, an area for which access previously was restricted.
- Resurvey and site delineation of all unevaluated identified sites. The nature of previous archeological surveys has left in doubt the presence or absence and boundaries of archeological sites in certain areas.
- Assessment of the National Register eligibility of all sites identified as "potentially eligible," in light of possible adverse impacts from natural forces like shoreline erosion, or the effects of undertakings such as building construction, demolition, or maintenance; road or utility line replacement or modification; or training activities.
- Stabilization, interpretation, and redefinition of the boundaries of the Belvoir Manor Ruins and Fairfax Grave Site (44FX4) to reduce continued site erosion and to reflect the results of additional site testing.
- Consolidation of all archeological collections and related records recovered from Fort Belvoir and storage in an archivally stable curation facility that meets current Federal standards (36 CFR 79).
 - Collections presently are housed at the (Fairfax) County Park Authority Archaeological Services facility, at academic institutions, with private contractors, and in various installation storage areas.³⁹
 - Field records and other archeological documentation are missing from archeological collections.

Inventory of Architectural Resources at Fort Belvoir

Fort Belvoir's current identification and evaluation efforts have included reconnaissance-level architectural surveys of all buildings and structures constructed prior to 1946; development of appropriate historic contexts; preparation of National Register nominations; and conditions assessments of specific buildings. A comprehensive assessment of the installation's Cold War resources (1946 - 1989) has not yet been conducted, although some buildings from that era located adjacent to or inside the boundaries of the Fort Belvoir Historic District have been evaluated.⁴⁰

National Register nominations completed to date at Fort Belvoir include the Fort Belvoir Historic District; one multiple property, the U.S. Army Package Power Reactor (SM-1 Plant); and two individual properties, the Camp A. A. Humphreys Pump Station and Filter Building and the Thermo-Con House. These nominations, although the resources considered National Register

eligible, have not been submitted to the National Register program; however, the resources have been listed on the Virginia Landmarks Register (Appendix IV).⁴¹ Table 6 contains the current inventory of all historic properties that have been determined eligible for inclusion in the National Register of Historic Places; Figures 4b and 5 depict the locations of these National Register-eligible resources, which include:

- The Fort Belvoir Historic District. The Fort Belvoir Historic District encompasses a group of 196 contributing buildings and 11 non-contributing structures, including the parade ground and associated landscape features, that form the administrative and residential core of the Post. Significant under Criterion A for its Colonial Revival Style architecture and community planning, most of the buildings within the district were constructed during the 1930s and 1940s. Characteristic features of these buildings include symmetrical facades, brick exteriors, and limestone detailing.⁴¹ The plan of the administrative and residential areas, including the formal parade ground and curvilinear residential streets, is an integral part of the historic district. The district's large rectangular parade ground, the central focus around which most of the administrative buildings are oriented, typifies military post planning principles during the late 1920s and 1930s. Command and administration buildings are aligned along the east side, and barracks and related recreational structures are located along the western edge of the parade grounds.⁴³ Non-commissioned officers' (NCO) family housing is located west of the parade ground, behind the barracks (Figure 6). The boulevard terminates in a semi-circular drive at the NCO Club (Building 184). Two clusters of officers' housing, consisting of a group of 1920s officers' housing and a group of 1930s senior officers' housing, lie north and east of the parade ground. The senior officers' housing complex resembles a 1930s garden-suburb, with its substantial, two and one-half story brick Colonial Revival residences along curvilinear roads. Its layout takes advantage of the natural topography and vistas of the Potomac. Two principal residential buildings in the district, the Commanding Officers Quarters (Building 1) and the Officer's Club (Figure 7), are sited on promontories overlooking the river.
- The U.S. Army Package (Nuclear) Power Reactor Multiple Property. Constructed in 1957, the U.S. Army Package (Nuclear) Power Reactor possesses exceptional significance as the Army's first prototype nuclear generating plant (Criterion A and G). Developed as a training facility for military personnel, the complex occupies a 30-acre fenced area that encloses the SM-1 Plant (Building 372) and several support buildings (Figure 8). Construction of the reactor was the first major accomplishment of the Army's Nuclear Power Division (NPD), represents an important transition into the advanced technology of atomic power. It also represents the first water-pressurized reactor to be brought on-line in the United States. The decision to build the plant at the Engineer Center is consistent with the installation's historical position as the Army's premiere engineering research and development center. Developed jointly by the Atomic Energy Commission (AEC) and the DoD as an air-transportable power plant to meet the requirements and site conditions of remote military bases, the SM-1 Plant also served as the national nuclear training facility for military personnel.⁴⁴,⁴⁵,⁴⁶

Table 6. National Register Eligible Built Resources at U.S. Army Garrison Fort Belvoir (1997)*

Building No.	Building Name	Date	National Register Status	Survey Type/Date
1	Commanding Officer's Quarters	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
2	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
3	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
4	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
5	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
6	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
7	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
7A	Transformer (Quarters 7 & 8)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
8	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
9	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
10	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
11	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
12	Officer Family Housing (Type B)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
13	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
14	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
15	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
15A	Tennis Courts	1950	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
15B	Transformer (Quarters 16 & 17)	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
16	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
17	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
18	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
19	Officer Family Housing (Type B)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
20	MacKenzie Hall	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
21	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
22	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
23	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
24	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
25	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
26	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
27	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
28	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
29	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
30	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
31	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
32	Officer Family Housing (Type A)	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
33	Officer Family Housing (Type A)	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
33A	Transformer	1943	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996

149	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
150	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
151	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
152	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
153	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
155	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
157	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
157A	Transformer (Quarters 157)	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
159	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
161	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
162	NCO Family Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
163	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
164	NCO Family Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
165	NCO Family Housing	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
166	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
167	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
168	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
169	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
170	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
171	NCO Family Housing	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
172	"Thermo-Con" House	1948	Individual NR Eligible	Thermo-Con Nom. 1995
173	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
174	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
175	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
176	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
177	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
178	Detached Garage	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
184	NCO Club (Club 7, 8, 9)	1939	Fort Belvoir H.D. - Contributing	HABS, 1984
188	Water Storage Tank	1918	Fort Belvoir H.D. - Contributing	HABS, 1984
191	Fire Station	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
201	Wilson Hall-Administration	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
202	MacArthur Hall - Defense Systems	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
	Management College			
203	Barracks w/o Mess	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
204	General Instruction Building	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
205	General Instruction Building	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
206	Barracks w/o Mess	1928	Fort Belvoir H.D. - Contributing	HABS, 1984
207	General Instruction Building	1929	Fort Belvoir H.D. - Contributing	HABS, 1984
208	Barracks w/o Mess	1929	Fort Belvoir H.D. - Contributing	HABS, 1984
109	General Instruction Building	1929	Fort Belvoir H.D. - Contributing	HABS, 1984

210	Barracks w/o Mess	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
211	Barracks w/o Mess	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
212	Barracks w/o Mess	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
213	Barracks w/o Mess	1940	Fort Belvoir H.D. - Contributing	HABS, 1984
S-214	Bagley Hall	1941	Fort Belvoir H.D. - Contributing	HABS, 1984
S-215	Educational Building	1941	Fort Belvoir H.D. - Contributing	HABS, 1984
216	Flagler Hall-Civilian Personnel Office	1932	Fort Belvoir H.D. - Contributing	HABS, 1984
216A	Flagpole	1976	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
217	Detached Garage	1932	Fort Belvoir H.D. - Contributing	HABS, 1984
218	Monument	1967	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
219	Essayons Theater and Administration	1931	Fort Belvoir H.D. - Contributing	HABS, 1984
226	Battalion Headquarters	1957	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
S-231	Consolidated Mess #1	1968	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
235	Battalion Headquarters	1965	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
240*	Wallace Theater	1950	Fort Belvoir H.D. - Contributing*	Survey 1996
245	Baseball Field	1950	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
246	Communications Electronics	1951	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
	Building			
256	Main Post Office	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
257	Hill Hall - Judge Advocate's Office	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
258	Administration Offices	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
268	Williams Hall - Printing Facility	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
269	Abbot Hall - Post Headquarters	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
270	Thayer Hall - General Instruction	1935	Fort Belvoir H.D. - Contributing	HABS, 1984
350	Sewage Pump Station	c. 1962	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
372	SM-1 Nuclear Power Plant	1957	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
373	Sentry Station/Emergency Siren	c. 1960	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
375	Pumphouse	c. 1961	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
376	Waste Retention Building	c. 1961	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
384	Electronic Equipment Facility	c. 1964	SM-1 Plant M.P. - Contributing	SM-1 Nom. 1996
T-435	Fairfax Chapel	1941	Fort Belvoir H.D. - Contributing	HABS, 1984, 1992
T-436	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-437	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-438	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-439	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-440	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
T-441	Officer Family Housing	1921	Fort Belvoir H.D. - Contributing	HABS, 1984
443	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
444	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996

445	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
446	Detached Garage	1940	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
T-498A	Ballfields	1955	Fort Belvoir H.D. - Non-Contributing	FBHD Nom., 1996
500	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
500A	Transformer Vault	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
501	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
502	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
503	Housing	1934	Fort Belvoir H.D. - Contributing	HABS, 1984
1024*	Van Noy Library	1949	Fort Belvoir H.D. - Contributing*	Survey, 1996
1124	Gas Station	1934	Fort Belvoir H.D. - Contributing	Survey, 1996
T-1139	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1140	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1141	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1142	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1143	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1144	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
T-1145	General Purpose Warehouse	1917	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
1150	PX Administration	1934	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1150A	Transformer Vault	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1156	Substation	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1157	Stand-by Generator	1929	Fort Belvoir H.D. - Contributing	HABS, 1984, FBHD Nom. 1996
1158	Electric Storage	1935	Fort Belvoir H.D. - Contributing	FBHD Nom., 1996
1400	Water Filtration Plant	1918	Humphreys Pump Station MP	1400 Nom., 1996
1404	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1405	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1407	Pump Station Complex	1935	Humphreys Pump Station MP	1400 Nom., 1996
1408	Pump Station Complex	1941	Humphreys Pump Station MP	1400 Nom., 1996
1411	Pump Station Complex	c. 1942	Humphreys Pump Station MP	1400 Nom., 1996
1421	Pump Station Complex	c. 1942	Humphreys Pump Station MP	1400 Nom., 1996
1424	Pump House	1936	Humphreys Pump Station MP	1400 Nom., 1996
5090**	Fixed Ammo. Magazine/EPG	1948	SM-1 Plant M.P. - Contributing*	Survey, 1996
5092**	Fixed Ammo. Magazine/EPG	1948	SM-1 Plant M.P. - Contributing*	Survey, 1996
5094**	High Explosive Magazine/EPG	1948	SM-1 Plant M.P. - Contributing*	Survey, 1996

ABBREVIATIONS:

H.D.: Historic District

M.P.: Multiple Property

NR: National Register

HABS: Historic American Buildings Survey

FBHD Nom.: Fort Belvoir Historic District National Register Nomination

1400 Nom.: Camp AA Humphreys Pump Station and Filter Building NR Nomination

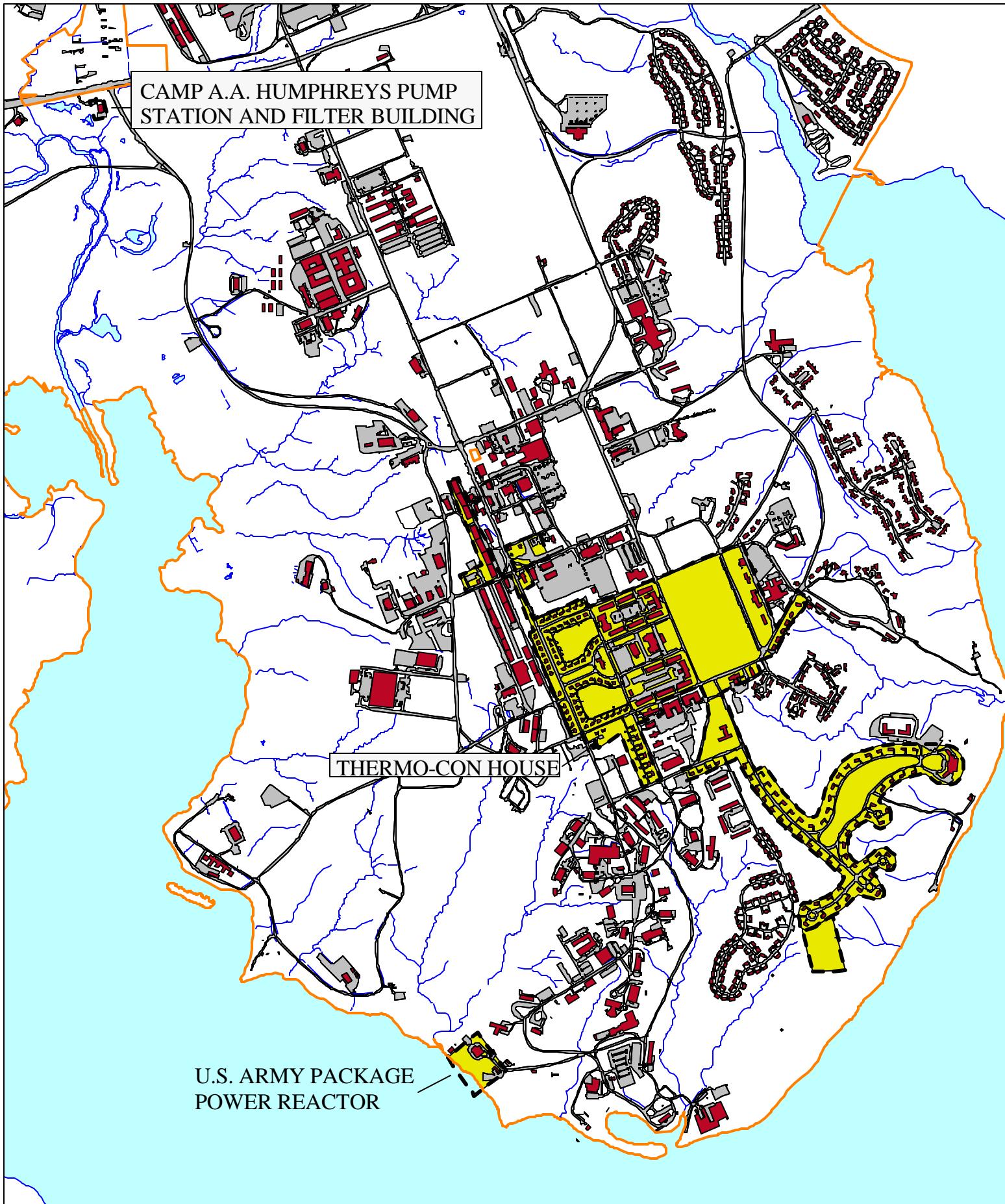
SM-1 Nom.: US Army Package Power Reactor National Register Nomination

Thermo-Con Nom.: Thermo Con House National Register Nomination

Survey 1996: Fort Belvoir Historic Building Survey

* Identification of additional potentially eligible buildings at Fort Belvoir would require complete survey of all buildings and structures constructed prior to 1951. This table reflects determinations only for buildings within this category that have been surveyed.

**Reflects buildings surveyed in 1996 by Harnsberger and Associates, Architects, that are not included in the current SM-1 Plant National Register nomination.



- Installation Boundary
- Cultural Resource Boundaries
- Existing Structure
- Historic District Area



FORT BELVOIR NATIONAL REGISTER AREAS

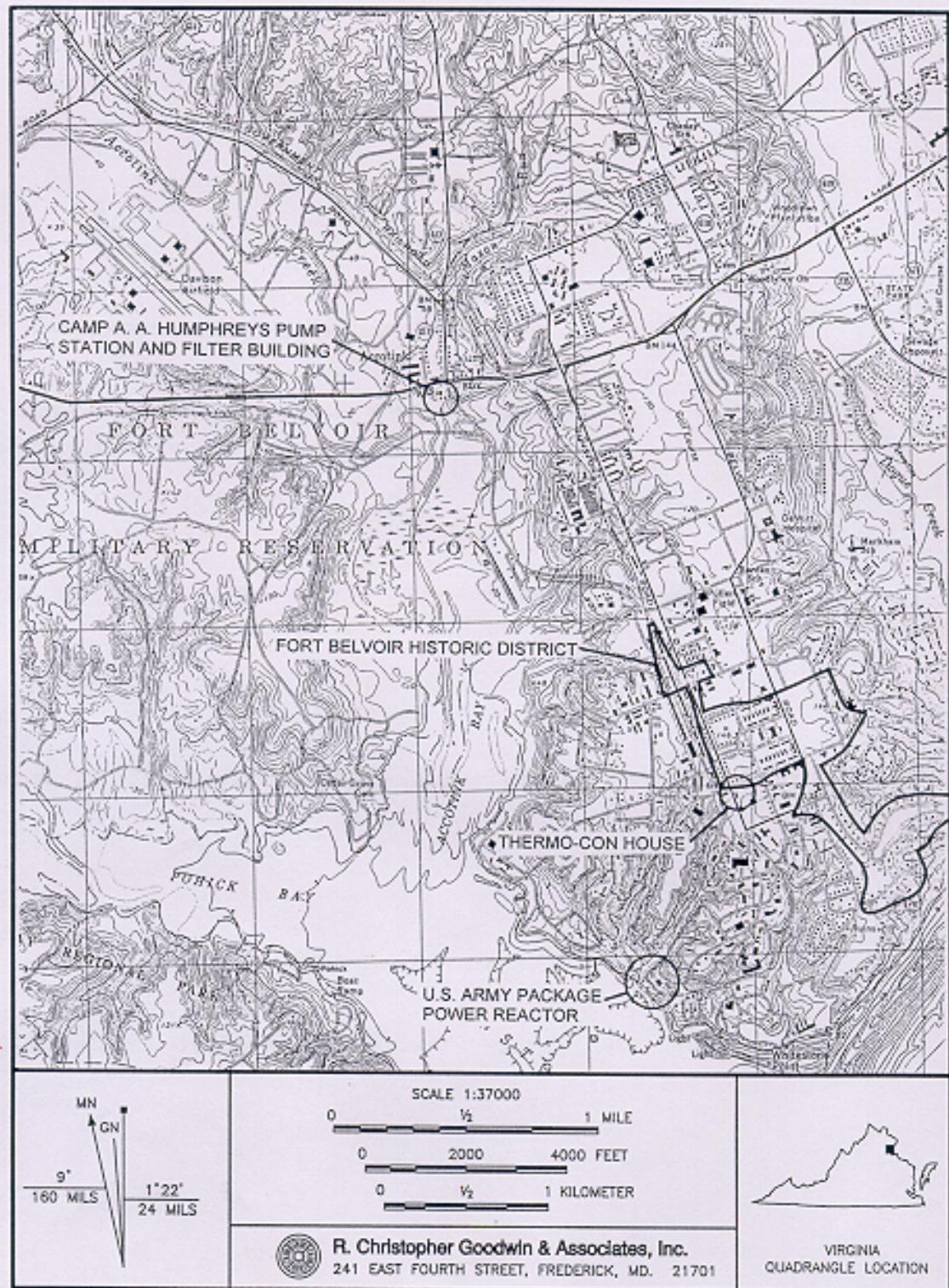


Figure 5. Excerpt from USGS Fort Belvoir, VA-MD 7.5' quadrangle, showing location of the Fort Belvoir Historic District, U. S. Army Package Power Reactor (SM-1 Plant) Multiple Property, and individual National Register eligible properties at Fort Belvoir.



Figure 6. View of Officers' and NCO housing units in the Fort Belvoir Historic District.



Figure 7. View of Officers' Club located within the Fort Belvoir Historic District.

Figure 8. View of the U.S. Army Package Power Reactor Complex (SM-1 Plant) (Courtesy of Fort Belvoir History Office)

Unavailable at this time, the picture can be obtained by contacting the Fort Belvoir Environmental Natural Resource Department.

- Camp A.A. Humphreys Pump Station and Filter Building. Constructed in 1918, the pump station and water filtration plant (Figure 9) is the Post's oldest permanent structure and one of the few remaining vestiges of Camp A.A. Humphreys. Situated at the southern edge of the Post along U.S Route 1, the Colonial Revival Style complex is significant under Criterion A for illustrating both the development of support facilities as part of the World War I cantonment construction campaign, and for technological advances in the purification of drinking water. The one-story pump station (Building 1424) was added in 1936.

The water filtration complex ceased to operate in 1970, and all large mechanical equipment was removed at that time. In 1986, when it was leased to Fairfax County for use as a homeless shelter, the vacant building was renovated in accordance with the Secretary of the Interior's *Standards for Rehabilitation* and in consultation with VDHR and the Advisory Council on Historic Preservation.⁴⁷

- Thermo-Con House. The "Thermo-Con" House (Building 172) is distinguished from the surrounding residential development by its restrained International Style design. The two-story, flat-roofed concrete structure is located in a wooded section of the residential district, at the corner of 21st Street and Gunston Road (Figure 10). The Thermo-Con House was designed by the renowned Detroit architectural firm of Albert Kahn and Associates, Inc. The building was determined to possess exceptional significance under Criterion C for its unique method of construction.^{48, 49}

The Thermo-Con House is the only structure of its kind built by the Army Corps of Engineers.^{50, 51} The Army Corps of Engineers, Company "A," 410th Engineering Construction Battalion, erected the experimental structure in 1949 to test a cementitious material that used air or chemically injected concrete. The innovative method of construction was a prototype for creating lightweight, poured-in-place concrete structures to use as mass-produced housing.

National Register Properties Located Outside Fort Belvoir's Boundaries

In addition to the resources mentioned above, four National Register-listed properties and one National Register-eligible property are located outside the boundaries of Fort Belvoir. Although Fort Belvoir does not own these properties, Federal law requires that the installation consider the potential effects of its undertakings on all National Register-eligible properties, including those adjacent to its boundaries, that may fall within the undertaking's "Area of Potential Effect." Any major undertaking by the installation should be assessed for its impact upon the following properties:

- Woodlawn Plantation, which encompasses the Woodlawn mansion and the Pope-Leighey House, was a wedding present from George Washington to his nephew, and was designed by William Thornton, first architect of the U.S. Capitol. The Pope-Leighy House, a Frank Lloyd Wright designed "Usonian" dwelling, was moved to Woodlawn Plantation from its original location in Falls Church.

- Pohick Church, the parish church for the eighteenth century Anglican Truro Parish, was listed in the National Register in October 1969. The building is located on U.S. Route 1 at Old Colchester Road, immediately west of the installation.
- The Woodlawn Friends' Meeting House, a pre-Civil War church and burial ground that is surrounded by the installation, was determined eligible for listing in the National Register in 1991. To date, no National Register nomination had been prepared for this property.⁵²

The shoreline areas of Fort Belvoir also are part of the viewshed of a number of National Register sites along the Potomac River, including Washington's Mount Vernon. Undertakings proposed for these shoreline areas should be assessed for their direct or indirect impacts on the Potomac River viewshed.⁵³

Summary Assessment: Architectural Resources

Although Fort Belvoir has undertaken selected intensive-level studies of its built resources and has identified National Register eligible districts and structures, the application of current guidelines for resource identification and evaluation to existing data identified two areas that require additional consideration.

The Fort Belvoir Historic District

- The boundary for the Fort Belvoir Historic District requires additional justification under current National Register standards. The current boundaries of the Fort Belvoir Historic District omit several clusters of officers' housing designed by Captain W.H. Peaslee, U.S. Army COE and Captain A.A. Hockman of the Quartermaster Corps for Camp A. A. Humphreys. These one-story, Arts-and-Crafts Style dwellings are similar to the collection of 1920s dwellings included in the current boundaries (Buildings T-436-T441).
- Portions of the family housing built as part of the 1930s expansion campaign also are not included in the current boundary delineation. These include the Jadwin Loop officers' quarters (Buildings 451-455).

Cold War Properties

“Cold War” historic properties are buildings, structures, sites, objects, and districts “built, used or associated with critical events or persons during the “Cold War” period (1945 - 1989) and that possess exceptional importance to the nation or that are outstanding examples of technological or scientific achievement.”⁵⁴ Cold War properties may qualify for exceptional significance if they meet one of the National Register criteria; possess national significance; **and** retain sufficient resource integrity. Resources constructed as administration, maintenance, storage, and housing and community support generally do not meet the criterion of exceptional significance, but they should be reevaluated when they reach the 50-year age criterion and sufficient historical perspective has been achieved.⁵⁵



Figure 9. View of pump station and water filtration plant (Buildings 1400 and 1424).



Figure 10. View of the International style "Thermo-Con" House (Building 172).

*National Register Bulletin 22: Guidelines for Evaluating and Nominating Properties that Have Achieved Significance within the Last Fifty Years*⁵⁶ sets forth the criteria for evaluating exceptional significance and resource integrity. The Department of the Army also has developed guidance for evaluating Cold War-era properties in DA-PAM 200-4 (Section 3-3.d(2)(b)). Other properties constructed during the Cold War period should be evaluated under other state and local contexts.

Although some of Fort Belvoir's Cold War-era resources (Buildings 172, 350, 372-373, 375-376, 384, 383, 776, 5090, 5092, and 5094) have been individually documented,⁵⁷ no comprehensive survey of buildings from this period has been conducted.

REFERENCES CITED

1. United States Department of Interior, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington: National Park Service, Interagency Resources Division, Government Printing Office, 1991), p. 7.
2. Woolpert, Inc., *Real Property Master Plan, Fort Belvoir, Long-Range Component – 1993*. (Woolpert, Inc., 1992), p. 4-7.
3. *Ibid.*, pp. 2-11, 2-13, 2-14.
4. *Ibid.*, pp. 2-12, 4-9.
5. *Ibid.*, p. 2-13.
6. H. C. Porter, J. F. Derting, J. H. Elder, and E. F. Henry, *Soil Survey of Fairfax County, Virginia*. (Washington: United States Department of Agriculture, Soil Conservation Service, 1963), pp. 61, 65.
7. Woolpert, Inc., 1993, p. 2-13.
8. R. Christopher Goodwin and Associates, Inc., *Fort Belvoir: Host to History* (Frederick, Md.: Goodwin & Associates, Inc., for Pacuilli-Simmons, Ltd., 1995).
9. George G. Shott, *Belvoir Manor Archaeological Study*. Unpublished M.A. Thesis, George Washington University, 1976. (On File, Falls Church: Fairfax County Park Authority Archeological Services Branch).
10. MAAR Associates, Inc., *Phase II Archaeological Investigations at the Belvoir Ruins and Garden Sites, Fort Belvoir, Fairfax County, Virginia*. (Williamsburg, VA: MAAR Associates, Inc., 1993).
11. James River Institute for Archaeology, Inc., *Final Report: Archeological Investigations, U. S. Army Garrison Fort Belvoir, Site 44FX4, Belvoir Manor*. (Williamsburg, VA: James River Institute for CDM Federal Programs, Inc., 1992).
12. Charles H. LeeDecker, Charles D. Cheek, Amy Friedlander, and Teresa E. Ossim, *Cultural Resource Survey and Evaluation at Fort Belvoir, Virginia* (Soil Systems, Inc. for National Park Service, Office of Cultural Programs, Mid-Atlantic Region, Philadelphia, 1984).
13. MaryAnna Ralph, Jerome D. Traver, and Kenneth Baumgardt, *A Preservation Plan for Fort Belvoir, Virginia*. (Williamsburg: MAAR Associates, Inc., 1990).
14. Harding Polk, Jerome D. Traver, and Ronald A. Thomas, *A Phase I Survey of Fort Belvoir, Virginia, Volume I*. (Williamsburg: MAAR Associates, Inc., 1990).

15. Ronald Thomas, Maryanna Ralph, and Kenneth Baumgardt, *An Overview of the Cultural Contexts of Fort Belvoir* (Williamsburg: MAAR Associates, Inc., 1988).
16. Harding Polk, Ronald Thomas, and Jerome Traver, *Phase I Investigations of Various Development Sites and Training Areas, Fort Belvoir, VA.* (Williamsburg, MAAR Associates, Inc., 1993).
17. H. Alexander Wise (State Historic Preservation Officer, Virginia) to LCol. James H. Hayes (Director of Public Works, U.S. Army Garrison, Fort Belvoir), July 14, 1994.
18. Augustus Fahey, *GIS Data Development of Archeological Sites for U. S. Army Garrison, Fort Belvoir, Fairfax County, Virginia.* (Frederick: R. Christopher Goodwin & Associates, Inc., 1997).
19. *Ibid.*, pp. 7, 11a-11d, 14.
20. LeeDecker et al., 1984
21. Ralph et al. 1990.
22. Amy Friedlander, Barbara Engel, Sheryl N. Hack, Kenneth Baumgardt and Sandra DeChard, Camp A.A. Humphreys Pump Station and Filter Building, National Register of Historic Places Nomination. (Williamsburg: MAAR Associates, 1992).
23. Amy Friedlander, Sheryl N. Hack, and Judith Rosentel, U.S. Army Package Power Reactor, *National Register of Historic Places Nomination.* (Williamsburg: MAAR Associates, 1992).
24. Sheryl Hack and Lauren Archibald, *Fort Belvoir Historic District, National Register of Historic Places Nomination* (Williamsburg: MAAR Associates, 1992).
25. Ralph et al. 1990.
26. Hanbury, Evans, Newill, Vlatta and Company, Historic Components Guidebook Series (Hanbury, Evans, Newill, Vlatta and Company, 1993).
27. Harnsberger & Associates , *Fort Belvoir Historic Building Survey* (U.S. Army Garrison Fort Belvoir, Directorate of Public Works, Environmental & Natural Resources Division, 1995).
28. Harnsberger & Associates, Inc., *Fort Belvoir Historic Building Survey Addendum for Buildings Built Between 1945 and 1950* (U. S. Army Garrison Fort Belvoir, Directorate of Public Works, Environmental & Natural Resources Division, 1996).
29. U.S. Army Environmental Center (AEC), *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties.* (U.S. Army Environmental Center (AEC), 1997).
30. Woolpert, Inc., 1993, p. 5-17.
31. Ralph et al., 1990.

- 32. Polk et al., 1993.
- 33. Thomas et al., 1988.
- 34. Fahey 1997:7.
- 35. Michael A. Simons, *Phase II Archeological Investigation at 44FX1898 and Archeological Site Delineation of 44FX1935, U.S. Army Garrison, Fort Belvoir, Virginia* (Frederick, Md.: R. Christopher Goodwin & Associates, Inc., 1997), pp. ii-iii.
- 36. Fahey, 1997.
- 37. Simons, 1997, p. iii.
- 38. Virginia Department of Historic Resources, *Historic Property Inventories at Twelve Military Installations in Virginia* (Richmond: Virginia Department of Historic Resources and U.S. Department of the Army Legacy Resource Management Program, 1995).
- 39. United States Army Corps of Engineers, St. Louis District, *Collections Summary for Fort Belvoir, Virginia: U. S. Army Compliance Project Technical Report #88* (St. Louis: Mandatory Center of Expertise for Curation and Management of Archeological Collections, 1996), p. 3.
- 40. Harnsberger and Associates, Inc., 1996
- 41. Patricia Tyson, personal communication, November 1998.
- 42. Harnsberger and Associates and HRP & Associates, 1997:10.
- 43. LeeDecker et al. 1984:82.
- 44. Harnsberger and Associates and HRP & Associates, 1997.
- 45. Ibid, p. 9.
- 46. LeeDecker 1984:81.
- 47. Gilmore 1996:7-1.
- 48. Douglas J. Harnsberger, and Sandra Hubbard. Thermo-Con House. National Register of Historic Places Nomination. (Richmond: Harnsberger & Associates, 1996), p. 7-1.
- 49. Harnsberger and Associates and HRP & Associates, 1997: p. 9-10.
- 50. Harnsberger and Hubbard 1995:p. 8-3.
- 51. LeeDecker et al. 1984:p. 81.
- 52. Woolpert 1993:p. 5-16.
- 53. Ibid.

- 54. Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Washington: U.S. Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Heritage Preservation Services, 1997).
- 55. Department of Defense, *Environmental Conservation Program* (Washington: Office of the Deputy Under Secretary of Defense (Environmental Security), 1996).
- 56. U.S. Army Environmental Center, 1996.
- 57. Harnsberger and Associates, Inc., 1996.

CHAPTER III

CULTURAL RESOURCES PLANNING

Introduction

In accordance with Section 2.4.f of Department of the Army Pamphlet (DA PAM) 200-4, this chapter provides a brief review of applicable cultural resource management laws; discusses the general types of actions that affect cultural resources, with particular reference to their applicability to planned undertakings at Fort Belvoir; and examines the installation's current cultural resource management program. Succeeding chapters will provide general procedural guidelines and management goals for enhancing Fort Belvoir's existing program of cultural resource management.

Information for this chapter was gathered from interviews with key personnel at Fort Belvoir's Directorate of Installation Support (DIS) and the Humphreys Engineer Center; review of existing operating procedures; and an examination of the installation's master plan and available project files. DIS personnel were interviewed on a range of issues, including operating procedures, project tracking, proposed projects, facility maintenance, environmental compliance, and cultural resources management policies and procedures. Analysis of these data was used to develop the installation-specific procedures and recommendations presented in Chapters IV and V.

Statutory Framework

Federal legislation provides the statutory basis for identifying, evaluating, and protecting historic properties (i.e., those properties eligible for listing or listed on the National Register of Historic Places) managed by Federal agencies and delineates Federal agency responsibilities during the planning and review stages of federal actions. These laws and their implementing regulations define DoD responsibilities towards the protection of cultural resources within the specific installation mission, while ensuring that the interests of the nation, including recognized Indian tribes, are served in identifying and protecting cultural resources located on public lands.

National Historic Preservation Act (NHPA). The National Historic Preservation Act (NHPA) of 1966, as amended, is the cornerstone of Federal cultural resources management (CRM) law. It establishes a national program of historic preservation, and requires Federal agencies to administer historic properties in a spirit of stewardship and consider those properties when planning their activities. In addition, NHPA established a National Register of Historic Places (National Register), that lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture:

- instituted a system of State Historic Preservation Offices (SHPOs) for all states and territories to administer each state's historic preservation program [Section 101(b)(1)];

- authorized the Secretary of the Interior to expand and maintain the National Register of Historic Places and establish procedures for nominating properties to the National Register;
- directed the Secretary of the Interior to approve state preservation programs that were directed by a SHPO and a historic preservation review board;
- established a National Historic Preservation Fund;
- authorized a grant program to states for historic preservation activities and to individuals for the preservation of National Register properties;
- established the Advisory Council on Historic Preservation (AChP) as an independent agency to advise the President, Congress, and other federal agencies on historic preservation matters; to disseminate information on historic preservation; and to encourage public interest in historic preservation;
- established the Section 106 review process, which requires that cultural resources are properly considered in the planning stage of any federal agency activity; and
- incorporated the key features of Executive Order 11593 into Section 110 of the NHPA.¹

Sections 106 and 110 are the two primary elements of the NHPA related to Federal management of historic properties. Section 110 requires each Federal agency to establish a program to locate, inventory, and nominate and protect historic properties owned or controlled by the agency that may qualify for inclusion in the National Register. The intent of Section 110 is to identify the historic properties that should be considered when a Federal agency makes planning decisions.

Section 106 requires Federal agencies to "take into account" the effects of their "undertakings" on properties included in or eligible for inclusion on the National Register of Historic Places (36 CFR 800.1). In its regulations for the Section 106 process, the Advisory Council defined an undertaking as "any project, activity, or program that can result in changes in the character or use of historic properties." Federal undertakings include all direct actions; Federally-assisted actions such as those involving Federal funding or loan guarantees; and Federally-licensed activities, such as those requiring permits from Federal agencies (36 CFR 800.2). New regulations governing compliance with Section 106 of NHPA were revised by the Advisory Council on Historic Preservation and published in the Federal Register in the Spring of 1999; the revised regulations are summarized in Standard Operating Procedure 1 (Chapter IV) of this document.

The Federal agency responsible for the proposed undertaking (the "lead Federal agency") must initiate and complete the Section 106 review process. The first step is to identify known and potential cultural resources, and evaluate their potential eligibility applying the National Register Criteria for Evaluation (36 CFR 60.4 [a-d]). The potential effects of the proposed undertaking on significant identified resources, both direct and indirect, then are determined. If a proposed project is found to impact a National Register listed or eligible resource, steps then must be taken to mitigate anticipated damage to the resource. These decisions are made on a case-by-case basis. The State Historic Preservation Office (SHPO) and the Advisory Council for Historic Preservation (AChP)

may serve as active participants in the Section 106 review process; the ACHP must be afforded a reasonable time to comment on a proposed project that will effect significant historic properties.

Section 106 review ensures that Federal agencies consider their historic properties early during the planning of proposed undertakings, along with other factors like environmental concerns, cost, design, and agency mission. However, preservation of every historic property is not the goal of Section 106, nor can the SHPO or ACHP veto any project absolutely.

National Environmental Policy Act of 1969 (NEPA). NEPA requires Federal agencies to consider the environmental effects of their proposed actions prior to initiation. Although NEPA compliance documents must contain an assessment of the impacts of a proposed action or activity on both natural and cultural resources, compliance with NEPA cannot itself substitute for Section 106 consultation. However, data and findings obtained through compliance with other cultural resources statutes and regulations (i.e., Section 106) may be integrated into the concurrent NEPA compliance process and documents. Army policy for compliance with NEPA is contained in AR 200-2; additional guidance on the NEPA compliance process is presented in Chapter IV, under *Procedure 5: National Environmental Policy Act (NEPA) Compliance*.

Archeological and Historic Preservation Act of 1974. This law requires Federal agencies to arrange for the recovery or protection of archeological data that could be damaged by Federally-funded or -licensed construction projects, and authorizes the use of project funds to implement such preservation activities.

Archeological Resource Protection Act of 1979 (ARPA). ARPA imposes Federal felony penalties for persons convicted of excavating, removing, damaging, or otherwise defacing archeological resources located on Federal lands, or selling, purchasing, or transferring artifacts obtained in violation of the law. ARPA requires that permits be issued prior to the initiation of archeological investigation on Federal property or on property under Federal control. DoD Policy Regulation 32 CFR 229 implements the provisions of ARPA and applies those provisions specifically to all properties under DoD jurisdiction. *Procedure 4: Archeological Resource Protection Act (ARPA) Compliance* (Chapter IV) provides additional information on the ARPA compliance process.

National American Graves Protection and Repatriation Act of 1990 (NAGPRA). This law, governs the repatriation and protection of Native American (American Indian, Inuit, and Hawaiian Native) remains, associated and unassociated funerary objects, sacred objects, and objects of "cultural patrimony" recovered from lands controlled or owned by the United States or held in the collections of federal agencies or federally funded museums. An object of cultural patrimony is defined as "an object having ongoing historical, traditional, or cultural importance central to the Native American group or culture." The law provides for the protection and return of cultural items to the descendants of the groups that produced them. *Procedure 6: Native American Graves Protection and Repatriation Act (NAGPRA) Compliance* (Chapter IV) outlines additional information on the NAGPRA compliance process.

Architectural Barriers Act of 1968 (42 USC 4151)/Rehabilitation Act of 1973 (29 USC 792). These laws and their implementing regulation (36 CFR 1190) are intended "to ensure that certain buildings and facilities financed with Federal funds are designed, constructed, or altered so as to be readily accessible to, and usable by, physically handicapped persons." However, the regulation exempts certain "Buildings and facilities not covered," including "any building or facility on a military installation designed and constructed primarily for use by able-bodied military personnel." The Uniform Federal Accessibility Standards generated by these regulations were

adopted by DoD in Chapter 18 of DoD Directive 4270.1-M “Construction Criteria.” With regard to altering historic properties for the purpose of providing access, the standards specify that, prior to undertaking any alterations, consultation with the Advisory Council for Historic Preservation is required. If the ACHP determines that the proposed alterations would threaten or destroy the historic significance or integrity of the property, then special minimum standards can be substituted.²

Regulatory Framework

Army Regulation 200-4/AR PAM 200-4. Army Regulation 200-4, *Cultural Resources Management*, delineates the Army's policy for managing cultural resources to meet legal compliance requirements and to support the military mission.³ AR 200-4 applies to all installations and activities under the Department of the Army's control, and supercedes AR 420-40, Historic Preservation (May 1984). Department of the Army Pamphlet (DA PAM) 200-4 establishes a comprehensive cultural resources planning and management strategy for the Army, and provides information on the preparation of ICRMPs. The primary purpose of AR 200-4 is to implement policy, assign responsibilities, and prescribe procedures for the integrated management of cultural resources on all DA properties. The scope of this regulation includes the NHPA, AIRFA, NAGPRA, ARPA, Executive Order (EO) 13007, 36CFR79, and other legislation and regulations affecting cultural resources management. These policies help to ensure that Army installations make informed decisions regarding the cultural resources under their control.⁴

Department of the Army Administrative Structure. The Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health) (DASA[ESOH]) is the Army's Federal Preservation Officer (FPO) and has primary responsibility for overseeing the Army's activities under the NHPA. The Assistant Chief of Staff for Installation Management (ACSIM) is the Army Staff proponent for the military Cultural Resources Management Program. The Director of Environmental Programs (DEP) is responsible for: (1) promulgating cultural resources policy and guidance; (2) identifying, supporting, and defending cultural resources requirements; and (3) directing and coordinating Army Staff cultural resources management program. The Commander, U.S. Army Environmental Center (AEC), under the direction of the DEP, provides a broad range of technical support and oversight services to facilitate the Army's Cultural Resources Management Program. The AEC supports Headquarters, Department of the Army (HQDA), Major Army command (MACOM), and installation cultural resources compliance activities and programs.⁵

Establishing an Installation Cultural Resources Management Program. AR 200-4 requires installation commanders to institute an installation cultural resources management program, following guidelines set forth in DA PAM 200-4. Installation commanders must:

- identify, protect, curate, and interpret the Army's cultural resources through a comprehensive program that complies with legally mandated requirements and results in sound and responsible cultural resources stewardship;
- establish, where appropriate, a government-to-government relationship with Federally-recognized tribal governments and other Native American organizations in accordance with federal laws and regulations;

- establish an early coordination process between the CRM and installation staff, directorates, tenant organizations, and other interested parties prior to planning and implementing undertakings that may affect cultural resources;
- where required, prepare and implement an installation-wide Programmatic Agreement (PA) and/or a Comprehensive Agreement (CA) to streamline compliance with NHPA and NAGPRA for ongoing mission and operations;
- ensure that cultural resources management is integrated with installation training and testing activities, master planning (AR 210-20), environmental impact analysis (AR 200-2), natural resources and endangered species management planning (AR 200-3), and the Integrated Training Area Management (ITAM) program.
- establish funding priorities and program funds for cultural resources compliance and management activities;
- conduct a comprehensive evaluation of the installation's cultural resources management program; and
- prepare, maintain, and implement ICRMPs, cultural resources inventory plans and schedules, PAs and MOAs, CAs and Plans of Action, and other documents, as appropriate.⁵

Designation of a Cultural Resource Manager (CRM). AR 200-4 also requires installation commanders to designate an installation "Cultural Resource Manager" (CRM), following the guidelines set forth in DA PAM 200-4. The CRM is directly responsible for managing the installation's cultural resources, in compliance with Federal legislation and AR 200-4, by:

- ensuring compliance with laws and regulations that affect cultural resources;
- implementing procedures that ensure that all actions affecting cultural resources receive appropriate internal and external reviews;
- coordinating external consultation, as needed, with the appropriate State Historic Preservation Officer (SHPO) under Section 106 of NHPA, and other regulatory agencies;
- maintaining an up-to-date cultural resources inventory through continued identification and evaluation efforts;
- providing guidance in internal planning and maintenance decisions that affect cultural resources;
- providing technical consultation during internal review of projects affecting cultural resources;
- implementing and revising the ICRMP;
- coordinating cultural resource training for appropriate personnel; and,

- answering general inquiries about the installation's cultural resources management program.

To accomplish these tasks, the CRM oversees coordination with civilian and military personnel in tenant organizations, other directorates, and other divisions and branches.

Actions Affecting Cultural Resources

Fort Belvoir's extensive land area encompasses many diverse natural features and built resources. The Post's development potential is affected by certain limitations, including land constraints (i.e., environmental, natural, and cultural resource concerns), infrastructure constraints, and transportation considerations. Built constraints that may affect future land use include airfield clear zone and runway protection, explosive safety zones, and archeological and historic sites. Cultural resource considerations constitute one constraint on the development of military posts like Fort Belvoir. Thus, future development potential is based on evaluating constraints and identifying areas where development is best suited.⁷

An "undertaking" is any Federal, Federally-funded, or Federally licensed activity that has the potential to change the character of an historic property. The term encompasses a broad range of activities like demolition, construction, repair, maintenance, training activities, and permitting. In general, when Fort Belvoir carries out an undertaking that may affect historic properties, the installation must conduct a review and consultation under Section 106 of NHPA. Table 7 describes general types of "undertakings," such as building demolition, new construction, building maintenance and repair, rehabilitation, and ground disturbance, and how these actions can affect historic properties. Table 8 contains a list of proposed projects at Fort Belvoir through the year 2004, and provides a preliminary assessment of the effects of these projects on historic resources.

Building Demolition. Demolition of an historic structure is an adverse effect to the resource. Demolition of structures also may adversely affect sub-surface archeological features and deposits when obsolete utility lines or underground storage tanks are removed, and heavy machinery traffic crosses historic building sites. Building demolitions currently contemplated for Fort Belvoir include, the removal of extant housing units in Lewis Heights, area T-400, and on Rossel Loop.⁸

New Construction. New construction generally includes extensive sub-surface disturbance and landscape modification; as a result, such projects may adversely affect unidentified archeological resources. New construction also can affect surrounding historic built resources. For example, construction of a new building may introduce visual, audible, or atmospheric elements that are out of character with the property or that alter its historic setting. Additions that are incompatible with the scale, massing, and/or overall visual appearance of an historic building also may result in an adverse effect. Because the potential for such adverse effects may extend to historic properties outside of installation boundaries, it may be necessary to include such properties within the Area of Potential Effect (APE) of a specific undertaking.

As indicated in Table 8, numerous new construction projects are planned or are in progress at Fort Belvoir. They include major development within the Tompkins Basin recreation area; a new Army Reserve Center; police and fire stations; a chapel; classroom facilities; and housing improvements. Proposed housing projects include both renovation of existing housing units and new construction at a variety of sites. Other projects currently under consideration include

Table 7: Typical Undertakings and Their Potential Effects on Cultural Resources

Undertaking (Type)	Potential Effect: Architectural	Potential Effect: Archeological
Building Demolition	Demolition of an historic structure is, by definition, an <i>adverse effect</i>	Building demolition may adversely affect subsurface archeological features and deposits through related actions as utility line removal and heavy machinery traffic.
New Construction	New construction may introduce architectural, visual, audible or atmospheric elements that are out of character with adjacent or surrounding historic properties.	Any undertaking involving subsurface disturbance constitutes an adverse impact on potential archeological resources. New construction generally involves site grading and excavation to accommodate the building and ancillary utilities, adjacent parking areas, and the like
Building Maintenance/Repair	Maintenance and minor repair work on interiors generally will have <i>no adverse effect</i> . Repairs to exteriors of historic buildings generally will have no adverse effects if the Secretary of Interior's <i>Standards for Rehabilitation</i> and other design guidelines are followed.	Grounds maintenance that involves sub-surface disturbance may affect archeological resources
Rehabilitation/Major Repair	Rehabilitation and/or major repairs will have <i>an effect</i> on historic buildings; however, that effect generally is not adverse if the <i>Standards for Rehabilitation</i> are followed.	Excavation or other activity in connection with building rehabilitation may affect archeological resources if it that involves sub-surface disturbance.
Ground Disturbance/IRP Cleanup	May adversely affect historic landscapes.	Excavation or other activity involving sub-surface disturbance may affect archeological resources. Examples of potentially harmful undertakings include: utility line replacement or construction; fuel tank or other removal of environmental contaminants; parking lot construction; building construction.
Training Activities	May adversely affect historic landscapes	Depending on nature of activity, may impact archeological resources. Examples of potentially harmful effects include: disturbance of sub-surface deposits by explosives detonation or test trenching; compaction of soils due to heavy pedestrian or mechanized transport traffic.

Table 8. Construction Projects for Fort Belvoir through FY 2004

FY	Project Title	Funding	Project Status	Project Description	Potential Cultural Resource Impact
99	Community Club Improvement (Building 1200)	NAF	Complete	Renovation to existing building	Check for potential adverse visual impact on historic district
00	North Post Golf Maintenance Facility (Buildings 2990, 2991, 2993)	NAF	Awarded for construction	Renovate existing buildings	No impact
00	Military Police Station	MILCON	Site selected; in design	New construction (North Post)	No impact
00	Davison Air Field Fire Station	MILCON	Site selected; in design	New construction (North Post)	No impact
00	South Post Golf Clubhouse	NAF	Under construction	New construction of replacement building	Check for potential adverse visual impact on historic district
00	Bowling Center Improvement (Building 1199)	NAF	In design	Interior renovation of existing building	No impact; existing building; not on historic inventory
01	Dogue Creek Village, Phase III	MILCON	Phase I/II ongoing	Renovate existing family housing	No impact; existing buildings not on historic inventory
02	T-400 Area Family Housing Replacement	MILCON	Planning	Demolish existing family housing; replace with new	SECTION 106 ACTION Historic buildings (ca. 1921 housing units) Potential Adverse Effect
01	North Post Golf Clubhouse Addition (Building 2920)	NAF	Planning	Enlarge existing building	No impact
02	Defense Threat Reduction Agency	MILCON?	Site selected; in design	New construction in DLA area of North Post Add 1300 personnel	No impact

FY	Project Title	Funding	Project Status	Project Description	Potential Cultural Resource Impact
04	North Post Chapel	MILCON?	Site selected	New construction on Woodlawn Road	SECTION 106 ACTION Potential visual impact on 2 National Register listed and eligible sites (Woodlawn Plantation; Woodlawn Friends' Meetinghouse)
04	Southwest Area Development	MILCON	Proposed only	New construction for PERSCOM; OPTEC; AMC; possibly DIA and others); administrative space for 4,200+ workers	SECTION 106 ACTION Direct impacts: Archeological sites in proposed development area; evaluate and mitigate, if needed Indirect impacts: Archeological sites in contiguous areas: potential for site damage through erosion, siltation and other adverse impact National Register historic properties adjacent: adverse visual impact on 1918 Water Filtration Plant (Building 1400); Gunston Hall; Pohick Church
ND	Tompkins Basin Recreation Area	Unknown	Site selected	New construction may include: RV campground Playing fields Lodge and cabins	SECTION 106 ACTION Direct impacts: Check for potentially eligible archeological sites in area Indirect impacts Potential visual and audio impacts on Gunston Hall viewshed; increased waterborne traffic may impose adverse impact on Maryland Potomac shoreline resources (e.g., Marshall Hall, Chapman's)

construction of a headquarters building for DTRA, and utilization of the Southwest Area to provide tenant space for a variety of major DA agencies.⁹

Building Maintenance/Repair. Installation maintenance tasks typically include routine and minor repairs, such as bathroom repairs, roof repairs, painting, equipment maintenance and upgrades, and electrical repairs. Building maintenance generally will have no adverse effect on historic properties if the Secretary of the Interior's *Standards for Rehabilitation*¹⁰ are followed. However, if neglect of an historic property leads to deterioration or destroys the historic features that qualify it for the National Register, such neglect is considered an adverse effect. Generally, maintenance and repair work that involves the interior of the building will have no effect on archeological resources. However, grounds maintenance or utility installation or replacement activities that involve disturbing or excavating soils around the perimeter of a building may affect archeological resources in the vicinity.

Rehabilitation/Major Repair. Rehabilitations and major repairs generally include repair, replacement of materials, and/or construction. Although rehabilitation and/or major repair projects will have an effect on historic buildings, the effect is not always adverse as long as the rehabilitation work is completed according to the Secretary of the Interior's *Standards for Rehabilitation*. If work does not follow these guidelines, it is likely that the SHPO will find the project to have an adverse effect during the Section 106 consultation process. Rehabilitation and repair projects that are confined to the building's interior generally will not impact archeological resources; however, rehabilitation projects that involve excavation or ground disturbing activities (i.e., enlarging the building footprint, excavating basements or installing drainage systems) may result in potential effects on adjacent archeological resources.

Current major repair and rehabilitation projects proposed for Fort Belvoir's housing include the replacement and/or extension of patios in the rear of residences and renovations to electrical and heating systems.^{11, 12}

Ground Disturbance. Ground disturbance (e.g., grading, digging, trenching or plowing) poses a risk of potential effects to archeological resources. Examples of ground disturbing activities include, but are not limited to, the maintenance and construction of water, gas, and sewer lines; fuel tank removal; parking lot construction; building demolition; and building foundation construction. Some forms of training activities, particularly those that involve explosives or demolition, also may impact archeological resources. Accidental or intended disturbance of a National Register eligible archeological site by such activities or by actions indirectly associated with these types of undertakings, constitutes an adverse effect.

Several road realignments that currently are being considered at Fort Belvoir, including the closure of Beulah and Woodlawn roads and re-routing Woodlawn Road as a straight northerly extension of the present Mill Road through the North Post/HEC area¹³ may impact previously identified National Register-eligible archeological sites within this largely undeveloped section of the installation. Fort Belvoir can take measures to reduce the impact by planning and budgeting for archeological evaluations (Phase II studies) of potentially Register-eligible sites in advance of such construction, and by recognizing that unexpected discoveries still could occur. *Procedure 8, Emergency Procedures for Unexpected Discoveries of Archeological Deposits* (Chapter IV) addresses the appropriate procedures to follow in the event of unanticipated discovery of archeological deposits.

Ground disturbance generally will have no adverse effect on architectural resources. However, if the project affects important historic landscapes or settings, ground disturbance may

have an adverse effect on the resource. Fort Belvoir project planners should determine the impact of ground disturbing projects on the surrounding area, including historic viewsheds and landscapes in their determinations of effect.

Training activities. When the Engineers' School relocated from Fort Belvoir to Fort Leonard Wood, Missouri, many training activities that formerly took place at the installation were suspended; use of the Engineer Proving Ground to test weaponry and explosives was discontinued. Nonetheless, a few minor training activities and facilities are extant or on-going within the installation. These consist primarily of instructional classes that take place in indoor classroom settings, and outdoor activities such as land navigation (orienteering) exercises, bivouac, and helicopter flying practice, all of which currently take place within four specific training areas (T-1, T-8, T-9, and T-16). The ceremonial "Old Guard" unit from Fort Myer stables its horses in Area T-8, and various reserve units practice bridge building and amphibious landings at their established practice facilities near Tompkins Basin. All training and ancillary activities except those associated with Reserve units are scheduled in advance through the Directorate of Personnel, Training, Management and Security (DPTMS).¹⁴

The general impact of the present program of training exercises on the current landscape and historic resources at Fort Belvoir is judged to be minimal. The current level of training exercises involves almost no ground disturbing activities; the current training areas are located well away from the National Register eligible or listed historic districts, buildings, and archeological sites; and an archival study of the most potentially intrusive area of activity, the Reserve unit amphibious landing site at Tompkins Basin, found that the potential for finding significant archeological resources within this area was low.¹⁵ Concurrence for that finding was obtained from VDHR in 1994.¹⁶

Conclusion

Fort Belvoir undertakes a broad range of projects in support of its mission, including training, maintenance, repair, and construction projects. Activities that have a high potential to affect cultural resources include ground disturbance in the vicinity of archeological resources that are potentially eligible, eligible, or listed in the National Register, or extensive repairs, rehabilitation, and/or new construction that may, directly or indirectly, impact other types of historic properties. In addition, certain areas that have a moderate to high potential for previously unrecorded archeological sites also may warrant closer scrutiny. Careful planning and early coordination within the Section 106 consultation process will streamline the review and consultation stages.

Some proposed projects, such as general building repair and maintenance, could be determined to have no effect, provided that:

- the work being performed does not affect an historic building, property, setting, or site (**no cultural resources are located in the area of potential effect**);
- the work being performed does not alter or change those characteristics that qualify the historic building or archeological site for the National Register (no effect); or

- the work is being performed on part of a structure that has been intensively altered (such as a contemporary addition) or a previously disturbed portion of an archeological site, that is not important to its historic significance (**no effect**).

Because many such projects currently are defined as "undertakings" that affect historic properties, Section 106 requires review of each separate undertaking. This is a time-consuming and impractical procedure. Development of a Programmatic Agreement (PA) among the Department of the Army (Fort Belvoir), the SHPO, and the ACHP can help to reduce the necessity for reviewing standard and/or repetitive maintenance and repair projects undertaken at Fort Belvoir by establishing standardized procedures for maintenance and repair activities, and for ground-disturbing undertakings in previously disturbed areas. The next chapter, *Management Strategies*, discusses development of a PA in more detail, and a Draft PA has been submitted with this document.

Current Cultural Resource Management Program

Management Framework at Fort Belvoir

The following section examines the existing organizational framework at Fort Belvoir, and outlines the procedures by which planning and development occur at the installation. It illustrates how programs conducted by each division influence cultural resources management. Such actions may result from the implementation of long-term master planning initiatives; rehabilitation work proposed in annual planning meetings; and immediate repair needs and general maintenance. The duties of the Cultural Resource Manager (CRM) also are defined.

General Administrative Structure. As the major administrative and logistics center for the Northern Virginia portion of the Military District of Washington (MDW), Fort Belvoir is primarily a housing and administrative installation. The post currently hosts 109 tenant organizations, including various agencies of the Department of the Army (DA) and the DoD; private tenants; and state and local government agencies. Installation command and operations are vested in the Garrison Commander whose tour of duty lasts three years; the deputy post commander is a civilian position.¹⁷
¹⁸

Fort Belvoir's current administrative structure includes the following components: (1) Directorate of Installation Support (DIS); (2) Directorate of Resource Management (DRM); (3) Directorate of Information Management (DOIM); (4) Directorate of Plans, Training, Mobilization, and Security (DPTMS); (5) Directorate of Personnel and Community Activities (DPCA); (6) Directorate of Health Services; (7) Directorate of Dental Services; (8) Civilian Personnel Advisory Center (CPAC); (9) Public Affairs Office (PAO); (10) Staff Judge Advocate; (11) Inspector General; (12) Staff Chaplain; (13) Equal Employment Opportunity (EEO) Office; (14) Internal Review and Audit Compliance Office; and (15) Provost Marshall Office. Some base operations are performed by private contractors.¹⁹ Each division performs functions, maintains jurisdictions, or has needs for physical plants that may impact on the management of historic resources at Fort Belvoir.

Directorate of Installation Support (DIS). The Directorate of Installation Support (DIS) is directly responsible for managing cultural resources at Fort Belvoir; DIS also incorporates the administrative offices and responsibilities of the formerly separate Directorate of Logistics.²⁰ DIS is primarily responsible for:

- managing and implementing all facility and infrastructure improvements to the installation, including buildings and other physical facilities, infrastructure, and natural resources;
- advising the Installation Commander on all aspects of planning, engineering, housing, environment, and natural and cultural resources, and implementing command policies and decisions in these areas;
- providing services to various tenant agencies located within the installation boundaries and to the Humphreys Engineer Center (HEC);^{21, 22, 23}
- undertaking minor construction projects;
- planning and programming major construction;
- coordinating and supervising contractors involved in post maintenance and development;
- through Army Family housing, managing the installation's housing assets. Army Family Housing, however, is funded and operates separately; and
- managing the installation's environmental and natural resources programs through its Environmental and Natural Resources Division.^{24, 25}

Three principal divisions within DIS have responsibilities that directly affect cultural resources at Fort Belvoir. These include:

- *Engineering, Plans and Services (EP&S) Division.* EP&S has three branches that deal directly with design (overseeing Architecture and Engineering), utilities and grounds.²⁶
- *Contract Management Division.* The Contract Management Division has the facility planning branch and the work management branch.²⁷ The Master Planning function, major projects, real property issues, and the IFS all are housed under the Contract Management Division. The Master Planner provides overall planning expertise, and initiates and oversees requests for new construction and major rehabilitation. Facilities Planning plays an important role in cultural resources management by providing technical project support and overseeing facility planning (e.g., Real Property Master Plan). The Master Planning office tracks the progress of all of the projects, and issues a monthly report showing the status of all major projects. The Master Planner also schedules monthly project meetings that include Facilities Planning, EP&S, Design, Environmental, and Housing divisions within DIS.²⁸
- *Environmental and Natural Resources Division.* The Environmental and Natural Resources Division (ENRD), comprised of the Environmental and Natural Resource Branches,²⁹ is responsible for managing Fort Belvoir's environmental and natural resources programs. Currently, the Cultural Resources Manager (CRM) is located in this division, and is responsible for both cultural resources (Sections 106 and 110 of NHPA) and environmental

(NEPA) compliance.^{30, 31} The Installation Commander is responsible for ensuring that the CRM possesses the appropriate knowledge, skills, and professional training and education to carry out the responsibilities outlined in AR 200-4 (Section 1-9).

All alterations and repairs undertaken by DIS are generated either as a routine service order or an Individual Job Order. Each requires creating a data entry into the Installation's real property database, known as the Integrated Facilities System (IFS). All buildings that have been surveyed and found to be "potentially-eligible" or "eligible" for listing in the National Register of Historic Places or "contributing" to the Fort Belvoir Historic District have been keyed as "historic" in the database. This code indicates that anyone initiating work must coordinate the undertaking with the Cultural Resource Manager.

If a tenant organization wishes to initiate the alteration of any real property on the Installation, they must receive an authorization to do. Usually this takes the form of submitting a memorandum to the DIS facility planning staff that reviews the IFS record on the facility, and circulates the tenant's proposal among the differing program areas: Fire and Safety, Cultural Resources, etc.³²

Individual job orders (IJOs) for projects costing less than \$2,000, are processed through this division. IJOs consist primarily of small repair projects and are requested by filling out a Form 4283. Work orders that include large-scale projects (e.g., MILCON funded projects) require submittal of a Form 1391. IJOs and work order requests can be submitted by in-house personnel and/or by tenant organizations (i.e., FACOs). O&M is responsible for funneling the job requests through other offices, including Environmental and Natural Resources.³³ Once O&M prepares a cost estimate, it is filed on a form and a purchase order or delivery order is issued. The estimators are responsible for coordinating with the Environmental Division. For example, excavation permits processed through O&M require review and approval by the Environmental and Natural Resources Division (ENRD) of DIS.^{34, 35} The installation does not have an in-house maintenance staff. Instead, all maintenance on the post is privately contracted. Maintenance requests are sent directly to the contractor for implementation.³⁶

The potential impact of Facilities Planning activities on cultural resources is great, since this division is involved directly in the planning and designing of construction projects, coordinating external project reviews, overseeing contractors, and implementing projects. Inappropriate repairs, rehabilitation, or new construction can generate significant impacts on both historic buildings and archeological sites. Because projects administered by Facilities Planning generally require advanced planning, sufficient time is generally available to consider potential impacts to cultural resources.

Other functions of DIS. Fort Belvoir presently provides housing billets for members from all four service branches in the MDW region. Fort Belvoir manages and maintains roughly 2,700 properties, including the Woodbridge family housing area, which has been leased to Prince William County and is scheduled to close through Base Realignment and Closure (BRAC). The directorate also evaluates tenant requirements, develops housing plans, rents units, and assesses maintenance and construction requirements.^{37, 38, 39} Fort Belvoir's 13 residential neighborhoods are sited primarily along the eastern edge of the South Post. Much of the troop housing is located in the Lower North Post area. Woodlawn Village has housing set aside for Navy and Coast Guard personnel assigned in the National Capital Region (NCR). The rest of Woodlawn Village, along with the other housing areas, is available to Army personnel assigned in the NCR or personnel of any service assigned to Belvoir.⁴⁰

Housing programs can affect cultural resources through their influence on how housing units are maintained and used. The existing stock of family housing located within the Fort Belvoir Historic district is in itself historic; therefore, it is subject to restrictions regarding the types of materials, the nature of additions, etc. that are proposed for repair and improvement. Repair and improvement projects are the most common undertakings initiated by the Housing Division, and bathroom and kitchen renovations and window replacements are the most common types of housing requests. A project is initiated by submitting a work order to the Business Management Department and preparing a cost estimate. The request is sent to Contract Management. Contract Management is responsible for notifying ENRD if historic buildings are affected, so that the proposed project can be routed through the Section 106 process.^{41, 42} Routine maintenance of Fort Belvoir's housing is undertaken by a private contractor, who receives orders for maintenance directly.⁴³

Tenant Organizations. Fort Belvoir presently hosts 109 tenant organizations. Although most of these tenants are either Department of the Army (DA) or DoD agencies, other functions are represented, including private tenants (e.g., banks, commissaries) and local and state government agencies (e.g., Fairfax County Public Schools). Among Fort Belvoir's current tenants are: U.S. Army Information Systems Software Center (USAISSC); Communications Electronics Command (CECOM) Research, Development and Engineering Center (RDEC); U.S. Army Operational Support Airlift Command (USAOSAC); Defense Mapping School; U.S. Army Engineering and Housing Support Center (USAEHSC); U.S. Army Nuclear and Chemical Agency (USANCA); U.S. Army Reserve Center (USARC); U.S. National Guard; and Baltimore District, U.S. Army Corps of Engineers, Capital Area Office (CAO). Some tenant organizations are independent DoD agencies, such as the Defense Logistics Agency (DLA) and Defense CEETA. Tenant organizations at Fort Belvoir have installation support agreements (ISSAs) with the post, and each tenant also has a designated Facilities Communications officer (FACO) who maintains contacts with DIS.⁴⁴

Undertakings initiated by tenant organizations that may affect cultural resources include maintenance, repair, renovation or rehabilitation, demolition, new construction, and ground disturbing activities. AR 200-4 and Federal statutes and regulations stipulate that, although activities of tenant organizations may affect the cultural resources under the tenant's control, the ultimate responsibility for protecting and managing Fort Belvoir's cultural resources falls on the Garrison Commander or his designated CRM officer, **NOT** on the tenant organization. Therefore, tenant organizations must inform the CRM of any proposed actions or activities, so that the CRM can determine their potential effects on cultural resource(s) and initiate appropriate Section 106 compliance actions, where necessary.

Humphreys Engineer Center (HEC). The Humphreys Engineer Center (HEC) is an independent 583-acre installation adjacent to Fort Belvoir. Although a separate entity with its own master plan, the two installations do collaborate as a result of an inter-installation agreement. As part of this agreement, Fort Belvoir provides environmental and cultural resources support services for HEC. Specifically, this agreement states that the ". . . [S]upplier will provide services of Environmental and Natural Resources Division on the same basis as for installation activities and in accordance with attached Memorandum of Agreement concerning hazardous waste generation." The "supplier" in this case is DIS at Fort Belvoir. For example, HEC can request the services of Fort Belvoir to remove obsolete fuel tanks from their property. HEC and Fort Belvoir also can be involved in joint archeological projects; this is the case when new projects planned by Fort Belvoir affect HEC properties. Alternatively, if HEC initiates a project, they may choose to contract with the Baltimore District Corps of Engineers or a private contractor to complete cultural resources

surveys.⁴⁵ Cultural resource studies conducted within HEC are included in the summary tables listing previous research at Fort Belvoir.

Site selection for new facilities at HEC also is discussed and coordinated with the Planning Branch of DIS. Fort Belvoir's RPMP real property list includes HEC properties and identifies them as "non-reportable property."⁴⁶

Policies and Procedures

The following section examines procedures and policies presently used at Fort Belvoir to implement planning and installation development, and reviews the ways in which these processes currently affect cultural resource planning. These include:

- The DIS Forum. This weekly staff meeting of DIS division chiefs is utilized to main intra-office communication within the directorate. The meetings provide opportunities to discuss common issues, and ensure coordination of efforts among division chiefs. The DIS Forum does not function as a policy-making body. Suggested new policies within the Directorate must be submitted to and approved by the Garrison Commander through staff papers; such policies remain in force for one year, but may be re-authorized by the Garrison Commander.^{47, 48}
- Facilities Area Coordinator (FACO). Each tenant organization has a designated Facilities Area Coordinating Officer (FACO). FACOs are informed by the Fort Belvoir OPS of developments and decisions made at the installation level. The FACOs also meet periodically to be briefed on installation developments and to discuss their own current activities.⁴⁹
- Installation Planning Board. Fort Belvoir's Real Property Planning Board meets twice yearly to review objectives and goals; review the Real Property Master Plan; and discuss current and proposed projects. The board is composed of the Garrison Commander and Deputy Commander; the chiefs of all major directorates; the installation Master Planner; and representatives of larger tenant organizations. The Planning Board serves as a sounding board and basically approves projects.⁵⁰

When DIS submits plans for a proposed project, they are reviewed by the Garrison Commander and Planning Board, who reserve the right of final approval. The Garrison Commander must sign a "Form 1391" prior to submitting the project to Congress for appropriations.⁵¹ Form 1391 is discussed below, under the section *Military Construction (MILCON)*.

Real Property Master Plan (RPMP). Fort Belvoir's Real Property Master Plan (RPMP)⁵² details Fort Belvoir's development objectives and long-range planning issues and goals. Implementation of the master plan ensures the orderly management and development of the installation's real property assets, including its land, facilities, resources, and infrastructure⁵³ by:

- establishing the future direction for development or downsizing of the installation;

- managing limited resources within the framework of the overall plan;
- relating installation development to local community development;
- flagging decisions that may have controversial environmental impacts or violate the law;
- linking programming to RPMP decisions;
- comparing existing facilities to projected facility needs and other developmental and operational activities, in support of the five-year construction program;
- supporting the Army Communities of Excellence program; and
- identifying the acceptability of proposed land use and facility changes.

Issues addressed in Fort Belvoir's RPMP include environmental quality review; natural and cultural resources assessment; land use assessment; environmental assessment; general utilities review; traffic circulation and transportation; and installation design guide. Compliance requirements with the NHPA and Army Regulation 200-4 are addressed in Chapter 5, Section E, which also provides a summary of known archeological resources and existing architectural/historic properties.⁵⁴ Specific long-range planning issues are presented in Chapter 3 of the master plan, and are categorized by component (i.e., environmental, land use, utilities/infrastructure, transportation and traffic, and physical appearance).

The Fort Belvoir ICRMP should be integrated with the master planning and other planning documents to ensure that recommendations affecting historic resources will undergo appropriate reviews, in compliance with applicable federal legislation and Army regulations. The RPMP is scheduled for revision in 2003. Most projects that were identified in the current master plan are considered "undertakings" as defined in Section 106 of NHPA; for those that may affect historic properties, consultation with the Virginia SHPO office is required. Early identification and assessment of a proposed project by the Master Planner will ensure that appropriate preservation measures can be applied within specific project budgets and time constraints.

Project Funding. Funds for undertakings on the post are derived from a variety of sources, depending on the agency that has initiated the project and on the amount of funding requested. An understanding of project funding is essential for adequate cultural resources planning and development, because the NHPA provides that anticipated cultural resource management costs can be included in project development budgets.

- Military District of Washington (MDW). MDW can issue some independent construction contracts for installation work up to \$100,000, excluding Environmental Assessments (EAs).⁵⁵

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- Military Construction (MILCON). Military Construction (MILCON) projects include new construction and major renovations requiring new work in excess of \$500,000. These types of projects are included as line items in

the budget and are requested individually from the U.S. Congress. "L" funds are designated for new work; "K" funds are for maintenance and/or repair.⁵⁷ The MILCON submittal process is discussed in greater detail in the following section on *Project Tracking*.

Project Tracking. This section addresses operational procedures such as requests for MILCON funding, work orders/service orders, and compliance activity at Fort Belvoir.

MILCON Projects. Requests for MILCON funding are initiated on the installation level by submitting the request to the Facilities Planning Division/Master Planning, who reviews it, selects potential sites (if new construction), and initiates programming for the facility. A request can be submitted either by existing tenants, or by new tenant organizations that seek to locate their facilities at Fort Belvoir. Planning and execution of MILCON projects entails the following procedure, which allows opportunities for input on cultural resource concerns at a variety of stages:

- ***Project initiation***. A programming document known as "DD Form 1391" is completed for both new construction and major renovations (Figure 11). DD Form 1391 includes, among other items, an initial cost estimate, project description and justification, as well as general information on proposed project location and environmental documentation.

Section 15 of DD Form 1391, which addresses environmental issues, is submitted to the ENRD, which determines whether the proposed project already has been subjected to environmental analysis through an EA or EIS, or whether the project is exempt as a categorical exclusion. Historic preservation issues are dealt with in Section 18 of the form, which contains space for concurrence from the SHPO or findings from previous cultural resources investigations.⁵⁸

If warranted, ENRD conducts necessary compliance work and completes required consultation processes at the early stages of the programming process. In his review, the Chief of ENRD, who must sign off on DD Form 1391, is responsible for preparing EAs and fulfilling other permitting requirements (e.g., wetlands permits, Section 106 review), and signing the form.⁵⁹

- ***Project Review***. The completed DD Form 1391 next is reviewed and approved by several agencies, including: (1) the Garrison Commander; (2) the Military District of Washington (MDW); (3) the Department of the Army (DA); and (4) the District, Division, and Headquarters levels of the Corps of Engineers. Any of these agencies can make changes to the project and/or its place in a priority list; for example, a project that Fort Belvoir ranked as priority one can become a priority 10 project in a list of projects funded by MDW. Once the project is reviewed by these various agencies, the front page of the programming document is submitted to Congress for funding.^{60, 61}

Early consideration of cultural resources issues can permit changes in proposed site location and/or initiation of a Section 106 compliance action with relatively little delay of the project itself. If the project involves

Section 1 – Project Information: Funding Type, Year of Construction, Type of Project, Category Code, Project Title, Duration of Construction

Section 2 – Primary Facility and Supporting Facility Costs, Contingency Cost, and Supervision, Inspection & Overhead Costs.

Section 3 –

- 3A: Scope of Work
- 3B: Total Requirement, Total Adequate & Total Substandard
- 3C: Project: One line description of the project
- 3D: Requirement
- 3E: Current Situation
- 3F: Impact If Not Provided
- 3G: Additional Information: Physical Security Statement, References to Regulations, and any special features.

Section 4 –

- Prior Funding, Signature Block
- Section 6 – Quantitative Data

Section 7 – General Information: General Location, Installation Mission, Impact of Command Changes, Site Description, Unit Mission, Project Objectives, Parking Requirements, and Traffic Analysis.

Section 8 – Present Accommodations & Dispositions

Section 9 – Real Property Maintenance

Section 10 – Analysis of Deficiencies

Section 11 – Economic Analysis Data

Section 12 – Criteria for Proposed Construction

Section 13 – Furnishings and Equipment

Section 14 – Not Applicable

Section 15 – Environmental Analysis (Documentation)

Section 16 – Evaluation of Flood Hazard and Encroachment on Wetlands

Section 17 – Information Systems Cost Estimate

Section 18 – Protection of Historic Properties

Section 19 – Energy and Utility Requirements

Section 20 – Provisions for The Handicapped

Section 21 – Commercial Activities

Section 22 – Physical Security Data

proposed renovations to historic properties, a cost estimate and feasibility study is conducted. The SHPO is allowed time to review proposed rehabilitations to historic properties during the planning stages. The National Capitol Planning Commission (NCPC), which serves as the principal planning agency for the Federal government in the National Capital Region (NCR), also may provide comments and recommendations on both new construction and rehabilitation projects, and ensure that required compliance hurdles (e.g., environmental and natural/cultural resources) have been addressed.^{62, 63, 64}

- *Project Design/Approval.* A pre-design meeting is scheduled among the Baltimore District Corps of Engineers and representatives from Facilities Planning; Environmental Division; Safety; and other installation agencies. The Corps of Engineers typically manages the design work (e.g., plans and drawings); oversees construction; and has statutory authority over wetlands, navigation permits, and all real estate. Site selection also is reviewed through Fort Belvoir's Facility Planning Branch; ENRD works with the Planning Division to decide on a site for a proposed project.^{65, 66}

Additional meetings are scheduled at the 10 per cent (preconcept designs), 30 per cent (site details, elevations of proposed facility), and 90 per cent (final design and landscaping) design stages. At each stage, the project is reviewed by the Post staff, organization, Environmental Division, and appropriate subdivisions

- *Project implementation.* After the project is let for bid and a contractor is selected, a pre-construction meeting is scheduled with the building contractor, post personnel, and COE representatives to discuss the requirements of the construction contract.⁶⁷ The DIS Master Planner tracks the progress of all projects; issues a monthly report showing the progress and status of all MILCON projects; and meets monthly with other DIS divisions, including Facility Planning; Engineering Plans and Services; Design; ENRD; and Housing, to inform them of project status.⁶⁸

ENRD monitors the site throughout construction to ensure that work is completed in compliance and according to project specifications.⁶⁹

Work Orders/Service Orders. Repair and construction work performed at Fort Belvoir originates as a work or service order request submitted to the DIS director by in-house personnel or a tenant organization.

- The work/service order contains supporting documentation to justify the request and typically requires the approval of the Garrison Commander. A sketch of the proposed work also can be provided.
- The project receives an individual job number (IJO), and is assigned to a housing (FH) or non-housing (FE) category.⁷⁰

- Level 1 service orders (e.g., maintenance jobs or those involving new work valued at less than \$200 worth of material or 8 hours of work) are sent directly to the post's privately contracted facility maintenance group.
- Work orders entailing service or repairs costing between \$1,000 and \$1 million dollars are:
 1. entered into the installation's Integrated Facility System (IFS), which tracks the status of individual projects. The IFS system has been modified to automatically tag requests dealing with repairs to historic buildings.
 2. routed through ENRD-Cultural Resources for review if the IFS system shows involvement of historic properties;
 3. routed to a planner/estimator in DIS (operations and maintenance) who prepares a form cost estimate;
 4. issued a purchase order or delivery order against a specific IDQ contract that has been negotiated with a variety of contractors. Archeological excavation permits also go through operations and maintenance and require an environmental checkoff-signoff.⁷¹

Conclusion

Under its present system and program of cultural resource management, Fort Belvoir has undertaken numerous successful projects to comply with Sections 106 and 110 of NHPA. The installation has completed an identification survey for archeological resources,⁷² and has evaluated 43 archeological sites on the installation, of which 11 have been determined National Register eligible.⁷³ The installation also has made significant strides in identifying, evaluating, and maintaining its historic built resources, which include one National Register eligible historic district, one multiple property, and two individual structures.

However, improvements to facilitate the smooth and consistent operation of this system could be made. Management goals for such improvements are contained in Chapter V, *Action Plan*.

Planned Undertakings at Fort Belvoir: 1999-2004

Table 8 presents a summary of on-going and planned MILCON projects through the year 2004.

- Six projects involve renovation of existing built resources. Renovation/rehabilitation projects scheduled for National Register-eligible built resources will require Section 106 action; rehabilitation actions involving sub-surface disturbance also may require archeological investigations if their Area of Potential Effect (APE) includes either sites that

have not been evaluated for National register eligibility or sites that have been determined to be National Register eligible.

- Eight new construction projects are included in the list of planned undertakings. Their impact is expected to be primarily archeological, although analysis of secondary effects on viewsheds and nearby National Register-listed or Register-eligible built resources may be required.
- Demolition of family housing buildings is involved in one project. By definition, building demolition constitutes an adverse effect on an historic property. Formal evaluation of the National Register eligibility of the buildings or complexes to be demolished and mitigation of adverse impacts may be required.

REFERENCES CITED

1. Woolpert 1993:5-17,5-18.
2. U. S. Army Corps of Engineers, Fort Worth District, *Legal Sourcebook: Historic Preservation and Cultural Resource Management* (Prepared by TRC Mariah Associates, Inc.).
3. Department of the Army, *Cultural Resources Management (Army Regulation 200-4)*. (Washington, D. C.: Headquarters, Department of the Army, 1998).
4. Ibid., p. 1
5. Ibid., pp. 1-2.
6. Ibid., p. 4.
7. Woolpert, Inc., *Real Property Master Plan, Fort Belvoir, 1993*, pp. 3-14, 6-15.
8. Groenevald, Michael (Master Planner, Directorate of Installation Support, Fort Belvoir, Virginia), Personal Communication, December, 1999.
9. Ibid.
10. United States Department of the Interior, National Park Service. The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Washington: Heritage Preservation Services, 1995).
11. Joseph Jones (Chief, Housing Branch, Directorate of Installation Support, Fort Belvoir, Virginia), Personal Communication, November 1998.
12. Vicki Davis (General Officer Housing, Housing Branch, Directorate of Installation Support, Fort Belvoir, Virginia), Personal Communication, November 1998.
13. Lorance Lisle (Former Master Planner, Directorate of Installation Support, Fort Belvoir, Virginia), Personal Communication, November, 1998.
14. M.Sgt. Jeffrey Nesmeyer (Directorate of Plans, Training, Mobilization, and Security [DPTMS], Fort Belvoir, Virginia), Personal Communication, December 1999.
15. Orloff Miller, *Phase IA Literature Search for Submerged Cultural Resources in Tompkins Basin, Fort Belvoir Military Reservation, Fairfax County, Virginia* (Alexandria, Virginia: 3D/Environmental Services, Inc., 1992), p. i.

16. Ethel R. Eaton (Virginia Department of Historic Resources) to LCol James Hayes (Directorate of Public Works, Fort Belvoir), 12 July 1994.
17. Patricia Tyson (Cultural Resources Manager, Environmental and natural Resources Branch, Directorate of Installation Support, Fort Belvoir, Virginia), Personal Communication, November 1998.
18. Woolpert 1993, pp, 1-2.
19. Ibid., pp. 1-10 - 1-12.
20. Patricia Tyson (ENRD/DIS Fort Belvoir) to Martha Williams (R. Christopher Goodwin & Associates, Inc.), E-mail transmittal (22 December 1999).
21. Tyson, 1998.
22. Robert McCall (Planner, Environmental Branch, Humphreys Engineer Center, Fort Belvoir, Virginia), Personal Communication, November 1998.
23. Woolpert 1993, pp. 1-10.
24. Tyson, 1998.
25. Woolpert 1993, pp. 1-10.
26. Tyson to Williams, 1999.
27. Ibid.
28. Tyson, 1998.
29. Tyson to Williams, 1999.
30. Tyson, 1998.
31. Woolpert 1993, pp. 1-10.
32. Tyson to Williams, 1999.
33. Randy Sinkler (Chief, Business Management, Work Management and Facilities Management Branch, DIS, Fort Belvoir), Personal Communication, November 1998.
34. Tyson, 1998.
35. Sinkler, 1998.
36. Ibid.
37. Jones, 1998.
38. Davis, 1998.

- 39. Woolpert 1993, p. 6-3.
- 40. Ibid., pp. 6-3, 6-4.
- 41. Jones, 1998.
- 42. Davis, 1998.
- 43. Ibid.
- 44. Lisle, 1998.
- 45. McCall, 1998.
- 46. Ibid.
- 47. Tyson, 1998.
- 48. Patrick McLaughlin (Chief, Environmental and Natural Resources Branch, Directorate of Installation Support), Personal Communication, November 1998.
- 49. Tyson, 1998.
- 50. McLaughlin, 1998.
- 51. Ibid.
- 52. Woolpert 1993.
- 53. Ibid., p 1-1.
- 54. Ibid., pp. 5-8, 5-9, 5-15.
- 55. Tyson, 1998.
- 56. Ibid.
- 57. Ibid.
- 58. Groeneveld, 1998.
- 59. Ibid.
- 60. Lisle, 1998.
- 61. Groeneveld, 1998.
- 62. Ibid.
- 63. McLaughlin, 1998.

- 64. Woolpert 1993, p. 2-9.
- 65. Groeneveld, 1998.
- 66. McLaughlin, 1998.
- 67. Groeneveld, 1998.
- 68. Tyson, 1998.
- 69. Groeneveld, 1998.
- 70. Tyson, 1998.
- 71. Ibid.
- 72. H. Alexander Wise (Virginia State Historic Preservation Officer) to LTC James H. Hayes (Director of Public Works, Fort Belvoir), 14 July 1994.
- 73. Augustine Fahey, *GIS Data Development of Archeological Sites for U. S. Army Garrison, Fort Belvoir, Fairfax County, Virginia*. (Frederick: R. Christopher Goodwin & Associates, Inc., 1997), pp. 7, 11a-11d, 14.

CHAPTER IV

MANAGEMENT STRATEGIES

Introduction

This chapter develops and presents general and specific procedures through which effective cultural resource management programs are implemented. The section on proactive management strategies discusses a range of general procedures and strategies that typically are applied to the solution of cultural resource management problems. A general assessment of the applicability of each strategy to Fort Belvoir's cultural resources is presented at the end of each section. The standard operating procedures that follow present specific step-by-step procedures that can be used by Fort Belvoir personnel in complying with Federal legislation and Department of the Army regulations and in meeting the goals of the installation's cultural resources management program.

Installation-specific recommendations for achieving the overall objectives of Fort Belvoir's CRM program are presented in Chapter V, *Action Plan*.

Effective CRM programs are integrated solidly into the administrative infrastructure of an installation and are proactive; that is, an effective CRM program anticipates management needs in advance of projects or undertakings, and implements strategies that will fulfill the installation's CRM obligations within the context of its military mission. Army regulations recognize this by vesting the general responsibility for cultural resource management with the Garrison Commander, and requiring that he in turn assign the responsibility for implementing CRM programs to a designated Cultural Resources Manager (CRM) for the installation.¹ These regulations also specify that installation CRM programs should be integrated with training and natural resources management planning activities, and with other installation-wide planning documents.²

Fort Belvoir's CRM program currently meets these two basic regulatory requirements. Cultural resource management activities are implemented in the Environmental and Natural Resources Division of the Directorate of Installation Services (ENRD-DIS), where a designated Cultural Resources Manager (CRM) is responsible for both environmental (i.e., NEPA) and cultural resources compliance. The installation also has developed a Real Property Master Plan (RPMP), an Installation Design Guide³ and an Integrated Natural Resources Management Plan,⁴ into which elements of this ICRMP should be incorporated, as these documents are updated.

Proactive Management Strategies

A proactive CRM program seek to anticipate and resolve cultural resource management problems before they have reached crisis proportions. The following sections define and discuss general strategies that can facilitate the achievement of such a proactive program.

Continued Identification and Evaluation

Definition/discussion. Cultural resource identification involves locating and compiling information about cultural resources within the installation to develop a comprehensive cultural resources inventory. Early identification of historic properties that may require more focused attention or further investigation enables planners to determine the potential impacts of their planned undertakings on cultural resources. Often carried out in compliance with Sections 106 and/or 110 of the NHPA, identification studies include literature review, archival research, and field surveys. Surveys should be conducted according to methods specified in, and by personnel who meet the professional qualifications outlined in, *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines, National Register Bulletin 24* (48 CFR 4)⁵ and in *Guidelines for Archaeological Investigations In Virginia*.⁶

Cultural resource evaluation involves assessing the significance of identified cultural resources to determine their eligibility for listing in the National Register of Historic Places. The National Register Criteria for Evaluation (36 CFR 60.4[a-d]) are used to evaluate the significance of architectural and archeological resources. Briefly, these criteria stipulate that, to be eligible for listing in the NRHP, a resource must be substantially intact or undisturbed, AND must be significant because it either:

- relates to or illustrates locally, regionally, or nationally important historic trends or events;
- is associated with an individual who was important in local, regional, or national history;
- represents an unique or outstanding example of a specific resource type; or
- contains data that can contribute to our understanding of history or prehistory.⁷

Fort Belvoir Status. The previously completed architectural and archeological investigations that identify, document, and evaluate potentially significant cultural resources at Fort Belvoir have been discussed in Chapter II under the section *Previous Cultural Resources Investigations*, and are summarized at the end of this chapter. However, for Fort Belvoir to continue to meet its requirements under NHPA, additional identification and evaluation efforts are recommended to complete the post inventory and to evaluate specific cultural resources. Specific recommendations for future identification and evaluation efforts at Fort Belvoir are presented in Chapter V, *Action Plan*.

Personnel Training

Periodic training for personnel involved in planning, engineering, and cultural resource management supports the development of a more effective and efficient cultural resources management program, because it refines the skills necessary to manage cultural resources effectively and broadens staff awareness of basic CRM policies, procedures, and resources. In general, CRM training should:

- familiarize key base personnel with historic preservation legislation, procedures, and basic requirements for compliance activity;

- familiarize key staff with the installation's current inventory of cultural resources;
- acquaint personnel with changes in Federal regulations; and
- apprise staff of current building preservation techniques and technologies.

Fort Belvoir Status. Several of Fort Belvoir's DIS staff, including the present Cultural Resource Manager, have received formal training in preservation law and Section 106 compliance. DIS also has sponsored voluntary in-house training sessions on cultural resource issues. Such programs should be expanded, and participation by a wider staff should be encouraged. Specific recommendations for training base personnel, together with a partial list of available training programs, are included in Chapter V, *Action Plan*.

Management Strategies for Archeological Resources

Phases of Compliance. Adherence to the Section 106 process is required when any archeological investigations are required. The cultural resource review process for archeological resources outlined in Section 106 generally is divided into three phases of compliance: (1) identification (Phase I); (2) evaluation (Phase II); and (3) treatment (Phase III). Additional specific guidelines about procedures applied to archeological resources can be found in *Archeology and Historic Preservation: The Secretary of the Interior's Standards and Guidelines, National Register Bulletin 24*, and in the ACHP publication *Consulting About Archeology Under Section 106*.⁸

Identification (Phase I Survey). Identification entails locating and compiling information about the archeological resources on the installation and generating an inventory of those resources. Identification studies may be undertaken in compliance with both Section 110 and/or Section 106 of NHPA.

Phase I identification studies typically include literature review, archival research, and limited systematic field testing. Phase I archeological testing most often involves the manual excavation of sub-surface shovel tests within a defined area, the recordation of soil data and sub-surface features, and the recovery and analysis of artifacts. Under specific conditions, alternate means of site identification may be utilized in lieu of, or in combination with, manual excavation. These methods may include:

- systematic mechanized testing in locations where cultural resources may be deeply buried (e.g., beneath fill, deep alluvial soils, or the debris from demolished buildings); and/or
- pedestrian reconnaissance in locations where surface visibility permits the identification of exposed cultural resources.

Evaluation (Phase II Study). Phase II evaluation studies are conducted to determine whether an identified archeological resource qualifies for listing in the National Register of Historic Places using the National Register Criteria for Evaluation (36 CFR 60.4 [a-d]). Evaluation studies may be undertaken in compliance with NHPA, under Section 110 and/or Section 106. A National Register eligible archeological site generally must be older than 50 years; must be significant as defined by the

Criteria for Evaluation; and generally should possess integrity; that is, its features and deposits must be sufficiently undisturbed to permit it to convey its significance.⁹

Evaluation (Phase II) archeological studies seek to develop the historic context of specific site, and to determine the horizontal and vertical boundaries, the age and function, the integrity, and the research potential of a site. Techniques used in Phase II studies include:

- site-specific archival research;
- excavation of a number of larger units that are placed to determine the nature of all deposits associated with the site;
- advanced artifact analysis; and
- where appropriate, the recovery and specialized analysis of data such as pollen, soil chemicals, and faunal and botanical materials.

Treatment (Phase III). Ideally, the Advisory Council recommends that a National Register listed or National Register eligible archeological site be left intact and preserved from damage. Preservation strategies are developed on a case-by-case basis in consultation with the SHPO, taking into account a variety of factors. Some of these factors include: the nature of the site; the potential for adverse impacts to its deposits; the research value of each archeological property or group of properties; the property's significance under other National Register criteria, societal and mission needs, and the preservation potential of the site.¹⁰ Some commonly utilized methods of site protection include:

- designing construction projects to leave a reasonably protected open space around sensitive archeological properties;
- covering an archeological site with fill, provided caution is exercised to limit compaction, soil disturbances, chemical changes, and changes in soil structure, and provided reasonable access can be assured for future research;
- protecting archeologically sensitive sites or areas from damage by nearby projects or training activities through fencing, armoring, construction of berms, or re-routing of construction or training activities;
- designing structures over an archeological site in such a way as to minimize sub-surface disturbance; or,
- establishing protective covenants, easements, or other arrangements with residents, operators, or users of affected lands or facilities to protect properties within their control.

Archeological data recovery is used to mitigate adverse effects to archeological resources that cannot be managed using any of the methods described above. Data recovery studies involve the systematic removal of a sample of the data that provide an archeological site with research value, and may involve additional Phase I surveys and/or extensive excavation of a site. Data recovery and site preservation sometimes are combined, so that portions of the site are preserved intact. The extent and

nature of data recovery required will be agreed upon by the Department of the Army and the SHPO during the Section 106 review process.

Fort Belvoir Status. To date, a total of 302 archeological sites have been documented at Fort Belvoir and 178 sites have been recommended for further investigation. Except for one area adjacent to Davison Air Field, Fort Belvoir has completed Phase I surveys for the entire installation.^{11,12} However, there also is a potential for discovery of additional unrecorded sites unrecorded archeological sites within previously surveyed areas, particularly those examined in the 1980s, or areas described previously as “disturbed.”

An effective, proactive management program for Fort Belvoir’s known and potential archeological resources requires that installation planners predict future needs for archeological compliance. Required Section 106 compliance responsibilities should be discharged first, as the potential effects of planned construction projects and other undertakings on identified or potentially National Register eligible sites are assessed during project planning.

Non-compliance related, Section 110, cultural resource management activities may be undertaken using such funding sources as grants, discretionary installation funds, or unexpended FY cultural resource management funds. Such activities should include updating, at least every five years, Fort Belvoir’s inventory of identified archeological sites, as well as dealing with related issues, such as collections management. Fort Belvoir should give priority to:

- evaluating “at-risk” National Register eligible archeological sites, such as those located in likely Areas of Potential Effect for future undertakings, or sites subject to damage from natural processes, vandalism, or deterioration;
- reviewing previous archeological survey data to highlight areas of concern for unrecorded archeological sites, and conducting supplemental surveys, where necessary;
- investigation of identified archeological resources for which Fort Belvoir lacks sufficient information (unevaluated properties);
- assessing and resolving curation needs for Fort Belvoir’s archeological collections, including recovering collections held by private contractors and/or institutions and unifying them in a single repository; and
- assessing sites on properties proposed for acquisition or for disposal.

Specific recommendations for additional identification and evaluation efforts for Fort Belvoir’s archeological resources are presented in Chapter V, *Action Plan*.

Treatment Strategies for Architectural Resources

Secretary of Interior’s Treatment Options. The Secretary of Interior’s *Standards for the Treatment of Historic Properties*¹³ recommend four treatment options for historic buildings:

- **Restoration** returns a property to a particular period(s) of time. This treatment option may include the removal of later additions or changes, the repair of deteriorated elements, or the replacement of missing features.
- **Reconstruction** recreates missing portions of a property for interpretive purposes.
- **Preservation** is the maintenance and repair of a property's existing historic materials and design as it evolved over time.
- **Rehabilitation** is the process of returning a property to a useful state. This encompasses adapting a property to meet continuing or changing uses while retaining the property's character-defining features.

Although these treatment options do not provide specific technical guidance on which architectural features to retain, they do provide a framework for making decisions.

NHPA recognizes that preservation of historic properties, while the preferred option, may not be feasible. Hence, responsible management of built resources requires the development of treatment strategies based upon a variety of factors. These include:

- the significance of the historic property and its relative importance in history;
- the physical condition of the building;
- the proposed use of the building;
- mandatory code requirements; and
- the public interest.

A visual inspection of the building and a baseline assessment of the building's current condition and architectural integrity should be conducted to determine the most appropriate preservation strategy. The level of intervention necessary to preserve the building is based on the results of these investigations.

Mitigation Strategies. When none of the four options described above is feasible, mitigation measures may be negotiated as part of the Section 106 consultation process for each case. Eight standard techniques may be employed to mitigate adverse project effects on built resources.

Recordation. Recordation of historic buildings traditionally has been a frequent mitigation option for projects that necessitate adverse effects to such historic properties. The level and type of the recordation generally is negotiated on a case-by-case basis under a Memorandum of Agreement, as appropriate under the Section 106 process.

Documentation to the standards of the Historic American Buildings Survey (HABS) or Historic American Engineering Record (HAER) is a mitigation option employed when a resource of particular significance will be adversely impacted by a project (e.g., demolition or substantial alteration). The HABS/HAER program, administered by the National Park Service (NPS) Cultural Resources Stewardships and Partnership Program, involves producing a permanent photographic,

written, and graphic record of an historic property while allowing the project to move forward. HABS/HAER documents are housed and maintained by the Library of Congress, Prints and Photographs Division.

Because the level of HABS/HAER documentation varies with the significance and nature of the resource, the first step in the HABS/HAER documentation process is consultation with the NPS Regional Coordinator for evaluation of the resource and for stipulation of the extent of documentation. The most extensive level of documentation requires measured drawings, large format black and white photographs, and written historical and descriptive data. However, most projects require only large format photographs and written historical and descriptive data. Recent National Park Service program changes have qualified the types of buildings and structures eligible for inclusion in the HABS/HAER collection. Recordation of less significant buildings or building types previously documented in the collection, may be documented in the state inventory, as determined through coordination with VDHR.

Design Review. Projects involving new construction that affect historic properties frequently require compliance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (36 CFR 67).¹⁴ These standards require that the design of the new construction must be compatible with the affected historic property in size, scale, color, material, and architectural character. Compliance with the Secretary of the Interior's standards for new construction involves:

- analysis of the design qualities, or “character-defining” features, of surrounding historic properties;
- development of a range of acceptable design alternatives for incorporation into the new building design; and
- submission of a narrative justification for project compliance together with the building plans. These documents then are directed through the review process.

Rehabilitation. Under the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (36 CFR 67), rehabilitation is the preferred option for mitigating project effects on built resources. Rehabilitation is the process of returning a building to useful service while retaining significant design features. Development of appropriate rehabilitation plans entails:

- analysis of the historic structure to identify its significant historic, architectural, and cultural values by completing an intensive architectural survey;
- evaluation of the architectural integrity and structural condition of the building as a whole, as well as its component parts;
- development of a range of reuse alternatives and specific preservation procedures based upon the survey data and building analysis;
- preparation of a narrative that identifies the appropriate standard and its application. This narrative is incorporated as an attachment to the project review plans.

Covenants. Preservation covenants frequently are required when significant properties are transferred from Federal to private ownership. Covenants insure the on-going preservation and maintenance of significant historic, architectural, or cultural values in compliance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* (36 CFR 67). Development of preservation covenants involves:

- conducting an intensive inspection of the historic property to identify its significant features;
- developing covenant stipulations and incorporating them in property transfer documents; and, in some instances,
- developing marketing strategies to identify potential purchasers, advertise the property, and receive and evaluate offers.

Moving Historic Properties. Moving an historic property may be the best preservation approach when faced with an otherwise unavoidable adverse impact and the destruction of the property. The recommendations set forth in the Department of the Interior's publication, *Moving Historic Buildings*,¹⁵ should be followed in executing the move of an historic property.

Addition of Landscape Features. Landscaping may be used to mitigate both the effects of new construction and/or site relocation. Appropriate landscaping provides a visual and noise screen for historic properties., while appropriate period landscape design can enhance the architectural and historic values of an historic building or site.

Architectural Salvage. Salvage of significant building fabric is a mitigation strategy employed in projects where the demolition of historic properties cannot be avoided. In such cases, project effects are mitigated through the reuse or curation of significant features. The execution of salvage stipulations requires the identification, removal, and storage of salvageable materials, using the following procedural sequence.

- Criteria are developed for selecting salvageable elements based on the historic, architectural, and cultural values of the propert(ies).
- Using these criteria, a site-by-site inventory is undertaken to identify such materials.
- Salvageable materials are removed from each structure in advance of general demolition, if possible.
- Salvaged materials are inventoried and stored in an appropriate facility, such as an on-site salvage yard.
- Notice of material availability, information on transportation and legal title, salvage inventories, and re-use requirements are made available to historic preservation organizations, architectural review committees, museums, and the public.

Public Interpretation. As part of large-scale mitigation efforts, public interpretation of the resource may be recommended. Public interpretation programs are useful in imparting project

information to special interest groups and the public at large. These efforts can be used effectively by Federal agencies to promote public support for their cultural resource programs, and to mitigate negative public sentiment due to misinformation or to the perceived destruction of historical sites or properties.

Status of Fort Belvoir's Architectural Resources. To date, several National Register-eligible built resources have been identified at or immediately adjacent to Fort Belvoir: (1) the Fort Belvoir Historic District; (2) the U.S. Army Package (Nuclear) Power Reactor Multiple Property; (3) Woodlawn Friends Meeting House; (4) Camp A.A. Humphreys Pump Station and Filter Building (Buildings 1400 and 1424); and (5) the Thermo-Con House (Building 172). Table 6 summarizes the current inventory of architectural resources that have been determined eligible for the National Register. The Fort Belvoir Historic District and the Camp A.A. Humphreys Pump Station and Filter Building were formally reviewed by the Virginia Department of Historic Resources (VDHR) in December 1996. The current boundaries of the Fort Belvoir Historic District¹⁶ encompass the administrative and residential core of the facility and encompass 196 contributing structures and 11 non-contributing buildings.

A comprehensive survey and evaluation of the installation's Cold War resources (1946 - 1989) has not been completed to date. Recommendations for additional identification and evaluation efforts for Fort Belvoir's architectural resources are presented in Chapter V, *Action Plan*.

Due to funding limitations and operational priorities defined by its mission, restoration and reconstruction are unlikely approaches for Fort Belvoir's historic buildings and structures. Preservation and rehabilitation should be considered as feasible treatment options for Fort Belvoir's historic structures. Building rehabilitation provides a pragmatic alternative to preservation when a structure requires substantial upgrades or modifications to accommodate a new use or continued active service. Many original barracks buildings in the historic district have been rehabilitated for use as classrooms.

Preservation and Maintenance Plan for Fort Belvoir's Historic Buildings

Addressing of the care and treatment of Fort Belvoir's historic buildings and structures requires development of a preservation and maintenance plan. The plan should be aimed at retaining the important character-defining architectural features and overall spatial qualities (i.e., parade ground, road layout, tree plantings) of the installation's historic areas within the context of the installation's mission.

In general, preservation and maintenance of historic properties involves a three-stage process: (1) identifying conditions contributing to materials deterioration; (2) stabilizing historic materials; and (3) maintaining stabilized conditions. As a general principle, preservation strategies that require the lowest level of building intervention are preferred. *Low level* intervention measures include minor systems upgrades and implementation of a preventive maintenance program. Examples include regrading around a building's perimeter or replacing leaking gutters and downspouts. *Moderate level* intervention should be implemented only if low-level approaches prove ineffective. *High level* interventions are the most intrusive and potentially the most disruptive to the building system.

The *Secretary of the Interior's Standards for the Treatment of Historic Properties*¹⁷ provide the principal guidelines for the treatment of historic properties and outline practical approaches for preserving the integrity of historic materials and character-defining architectural features. As

discussed in the previous section, *Treatment Strategies for Architectural Resources*, preservation and rehabilitation were recommended as appropriate treatment options for Fort Belvoir's historic properties.

General guidance for preserving and maintaining Fort Belvoir's historic buildings should follow the five "Guidelines for Preserving Historic Buildings" presented in the Secretary of the Interior's *Standards*:

- identify, retain, and preserve historic materials and features;
- Stabilize deteriorated historic materials and features as a preliminary measure;
- Protect and maintain historic materials and features;
- Repair (stabilize, consolidate, and conserve) historic materials and features; and
- Limited in-kind replacement of extensively deteriorated portions of historic features.¹⁸

In rehabilitation, historic building materials and character-defining features are protected and maintained as they are in the treatment preservation; however, more repair and replacement may be required. As a result, the standards and guidelines for rehabilitation allow for the replacement of extensively deteriorated, damaged, or missing features using either traditional or substitute materials. Of the four treatment options, only rehabilitation provides the opportunity to adapt a building to a contemporary use through alterations and additions.²¹

Preventive Maintenance Program

Maintenance is vital to prolonging the life of any building. While building repairs are an inevitable part of a maintenance program, the key to a successful maintenance program is to reduce and prevent major repairs. Maintenance includes adopting basic cyclical preventive procedures that are carried out to preserve the historic building material and prevent the need for repairs to address more serious deterioration. Repair treatments imply a greater degree of intervention into the historic fabric of the structure, and are undertaken when regular maintenance is not adequate to halt deterioration.

Building maintenance should not be conducted strictly on an "as-needed" basis; that is the most expensive approach, because if maintenance is postponed, unnecessary deterioration will occur. Instead, a proactive maintenance program should emphasize systematic prevention rather than repair. A regular building inspection program can prevent neglect by identifying conditions before they threaten a building's historic fabric; inspections slow the inevitable process of deterioration by identifying potential problems before they escalate into severe failures.

Because inspections help to anticipate problems before they occur, capital projects can be funded in ample time, before damage to historic building materials occurs, thus streamlining the building maintenance and repair program by avoiding costly budget delays. Routine inspections also ensure that basic maintenance tasks, such as cleaning gutters and downspouts and clearing mulch build-up from a building's foundation, are not overlooked. The annual building inspection program,

although designed specifically for historic resources, also may be applied to all buildings, new and historic.

Given basic training in identifying and correcting defects in historic resources (see Table 9), Fort Belvoir's maintenance contractor can conduct the annual inspections; however, a full professional inspection should be undertaken every five years. Use of a formal inspection form to guide annual inspections (Figure 12) is recommended so that important building elements are not overlooked. Valuable aids utilized during an inspection include a flashlight, a camera to record problems, and binoculars to study inaccessible parts of a building exterior.

Systematic inspections examine a building system by system, beginning with the exterior and proceeding to the interior. As shown in Figure 12 and discussed below, four major components of the building are emphasized. These include:

- the roof and drainage system. This section is aimed at identifying defects in the way rainwater is carried away from the structure. Ideally, the roof and drainage system should be inspected during or shortly after a rainstorm so that clogged gutters, blocked downspouts, and wet walls can be detected easily. Cladding, flashing, skylights, ventilators, eaves, gutters, downspouts, and drains should be examined. As part of all visual inspections, rooftops, drains, gutters, and downspouts should be cleared of any debris. Drains at the bases of buildings also should be inspected to ensure that rainwater is channeled away from the foundation for a minimum of 10-13 feet to prevent moisture penetration.
- walls and foundations. The form focuses attention on problems associated with the walls and foundations, such as cracks, spalling, stains, and, in the case of wood siding, rot. Exterior trim should be intact; that is, paint layers should not have failed, and exterior trim elements should not be deteriorated, broken, or missing.
- windows and doors. These should be inspected for rot; corrosion; indications of structural defects such as sagging arches or lintels; glazing and paint failure; and deteriorating caulking around the windows. Condensation on windows should be noted, as excessive condensation can cause wood windows to rot and metal windows to corrode. Window and door sills must be angled properly to shed water.
- interior conditions. Thorough inspection of a building's interior ensures that no signs of deterioration are overlooked. The form is designed to assist in detecting stains, cracks, evidence of insect infestation, and signs of moisture damage, and to determine that utilities are in working order.

Fort Belvoir Status. To date, two reports have been completed that offer guidance for preserving and maintaining historic properties at Fort Belvoir: *Historic Components Guidebook Series*²⁰ and *Fort Belvoir Historic Building Survey*.²¹

The *Historic Components Guidebooks* were prompted by the adoption of Stewardship Standards for the preservation and rehabilitation of historic family quarters at installations under the jurisdiction of the MDW, including Fort Belvoir. These standards developed a plan for family

Table 9: Conservation Training Courses for Maintenance and Operations Personnel

Title/Location Cost/Duration	Contact	Description	Intended Audience
Historic Structures: Craft Skills Training <u>Location:</u> San Antonio, Texas <u>1998 Cost:</u> \$1,505 <u>Duration:</u> 1 week	Frank Norcross US Army Corps of Engineers Attn: CEMP-EA 20 Massachusetts Ave., NW Washington, D. C. 20314-1000 Phone: (202) 761-0881 Fax: (202) 761-8815	Provides crafts skills training for technicians and construction inspectors who maintain, preserve and rehabilitate historic buildings. Includes classroom and skills training. Classroom training (12 hrs) covers the Secretary of Interior's <i>Standards</i> ; levels of treatment; character-defining features; preservation of historic fabric (repair vs. replacement); deterioration of masonry, wood, roofing and flashing. Skills training includes a 3-day field exercise working with experienced craftsman on an on-going preservation project.	<u>Occupational Series</u> 1910, 1960, 3603, 3605, 3706, 4102, 4604, 4605, 4607, 4618, 4749, and 5318. <u>Grade:</u> GS-07, WG-11, E-6, O-1 or above with one year minimum experience in the organization Open to both installation and COE personnel.
Historic Structures: Maintenance and Repair <u>Location:</u> Seattle, Washington <u>1998 Cost:</u> \$1,315 <u>Duration:</u> 1 week	Frank Norcross US Army Corps of Engineers Attn: CEMP-EA 20 Massachusetts Ave., NW Washington, D. C. 20314-1000 Phone: (202) 761-0881 Fax: (202) 761-8815	Provides an awareness of the unique characteristics, legal requirements, procedures, technical knowledge, and skills needed to maintain and repair Federally-owned historic properties. Course reviews laws, regulations, criteria; identification and documentation of historic fabric; reasons for deterioration; design issues; exterior finishes; life safety; engineering support; life cycle value.	<u>Occupational Series:</u> 0020, 0023, 0025, 0028, 0170, 0193, 0301, 03341, 0342, 0343, 0408, 0800s, 1005, 1008, 1170, 1171, 1173, 1176k 1300, 1640, 1910, 1960, other series with cultural resource responsibilities. <u>Grade:</u> GS-07, WG-11, E-6, O-1 or above. 1 year minimum experience in the organization. Open to both installation and COE personnel
Seminars in Historic Preservation <u>Location:</u> By request <u>1998 Cost:</u> \$500 - \$10,000 <u>Duration:</u> 1-3 days	Horace Foxall US Army Corps of Engineers Seattle District Technical Center of Expertise for Historic Buildings and Structures (TCX) P.O. Box 3755 Seattle, WA 98124-2255 Phone: (206) 764-4482	Offers custom seminars to address specific needs in historic preservation training, including theory and practice; buildings diagnostics; maintenance and repair; and, Federal laws and regulations	Optional

Title/Location Cost/Duration	Contact	Description	Intended Audience
Section 106: An Introduction Section 106: Advanced Seminar <u>Location:</u> Variable <u>1998 Cost:</u> Variable <u>Duration:</u> 1-5 days	National Preservation Institute (NPI) P.O. Box 1702 Alexandria, VA 22313 E-mail: info@npi.org Web Site: www.npi.org	Offers a series of professional training seminars for management, development and preservation of historic, cultural, and environmental resources related to historic preservation and cultural resource management. NPI also will customize seminars or workshops to meet the needs of a particular group, organization, or agency.	Professionals involved in the management and stewardship of cultural and historic resources, charged with compliance and contracting, and/or involved in the cultural resource and environmental management process.
Courses in Historic Preservation <u>Location:</u> Washington, D. C. Towson, Md. <u>1998 Cost:</u> Variable <u>Duration:</u> Variable	Goucher College Center For Continuing Studies Historic Preservation Certificate Program 1021 Dulaney Valley Road Baltimore, MD 21204-2794 Phone: (410) 337-6200 1-800-697-4646 Fax: (410) 337-6085	Offers a series of 10 courses leading to a certificate in historic preservation. Interested parties may take a single course or pursue a complete certificate. Course offerings vary, depending on semester. Catalogue of most recent listings available on request.	Optional
Workshops in Historic Preservation <u>Location:</u> Variable <u>1998 Cost:</u> Variable <u>Duration:</u> Variable	John Leeke Preservation Consultant 26 Higgins Street Portland, ME 04103 Phone: (207) 773-2306 Web Site: www.HistoricHomeWorks.com	Offers custom workshops in historic preservation methods and techniques.	Optional
Workshops in Preservation Technology (Various titles) <u>Location:</u> Variable <u>1998 Cost:</u> \$435 (non-member) <u>Duration:</u> 2 days	Association for Preservation Technology (APT) P. O. Box 8178 Fredericksburg, VA 22404 Phone: (703) 373-1621 Fax: (703) 373-0650	Courses offered in conjunction with organization's conference. Recent examples include "Early Building Technology of the Chesapeake" and "Coating for Architectural Surfaces."	Professional contractors, architects, masons, craftspeople
Preservation Philosophy for People Who Maintain Old Buildings <u>Location:</u> Windsor, VT <u>1998 Cost:</u> \$250 <u>Duration:</u> 4 days	Judy Hayward Preservation Institute for the Building Crafts Historic Windsor P. O. Box 1777 Windsor, VT 05089 Phone: (802) 674-6752	<p>Course covers building diagnostics; importance of routine maintenance; balancing needs of historic buildings, landscapes and collections; conservation guidelines; communications skills; tools; ways in which professional expertise can aid in the decision-making process. Prepares participants to make typical judgement calls on the job—repair, replace, preserve, restore: which first?</p> <p>Other training courses include Historic Wooden Flooring</p>	Caretakers, maintenance personnel, and property managers

(NAME OF INSTALLATION)
BUILDING INSPECTION FORM

Building Name
Building Number
Inspector:
Date:

Element	Condition		Comments	Date Corrected
	YES	NO		
Exterior Conditions				
<p>Drainage System</p> <ul style="list-style-type: none"> • Is the roof watertight? • Are shingles and tiles in place? • Has built-up roofing been checked for blistering and cracking? • Is flashing intact? • Do gutters retain proper pitch/are they clean? • Are downspout joints intact? • Are drains unobstructed? • Is site graded to channel water away from foundation? • Is vegetation cleared from structure to avoid trapping moisture? 				
<p>Exterior Walls</p> <ul style="list-style-type: none"> • Are masonry walls in good condition to seal out moisture? • Have walls been checked for cracking, spalling, and/or mortar loss? • Is wood siding in good condition? • Are walls free of stains or discoloration? • Are paint and stucco finishes in good condition? • Has foundation been checked for leaks? 				

Figure 12. Sample inspection form for building maintenance

quarters that addressed such issues as architectural integrity, patterns of use, and fiscal responsibility. The Family Quarters Historic Preservation Task Force responsible for creating these standards wrote:

It is the policy of the MDW to implement its vision of the importance of its historic resources by retaining, renovating, and maintaining its Historic Family Quarters in a manner consistent with its stewardship responsibilities, military mission, and the public interest.²²

Guidebooks were prepared for each quarters or set of similar quarters at Fort Belvoir (Quarters 2 - 60, Quarters 67, Quarters 68, Quarters 101 - 165, and Quarters 166 -171). These documents provided an inventory of existing historically significant components; specified appropriate new components; and presented procedures to be followed during maintenance or preservation work. The Stewardship Standards were designed for use in conjunction with the Secretary of the Interior's *Standards* and the *Installation Design Guide*. The guidebooks were intended to guide the renovation of selected quarters, following approved standards, to serve as models for future work on the historic quarters.²³

The architectural study included a survey of 33 historic, non-residential buildings (Buildings 20, 190, 191, 193, 201-213, 216, 219, 256-258, 268-270, 372, and T1139-T1145) that documented existing conditions and provided a list of specific preservation and maintenance recommendations. The conditions assessment survey examined the buildings' interiors and exteriors; identified the principal building materials, character-defining features, and building alterations; assessed existing conditions; and generated recommendations for rehabilitation. Repairs were prioritized according to three levels (Priority 1, 2, or 3) depending on their urgency.²⁴

Negotiation of a Programmatic Agreement (PA)

A Programmatic Agreement (PA) is a negotiated document that can satisfy the Section 106 review requirements for mission activities that will have no adverse effect on historic properties. The agreement assists a facility to comply with Section 106 of NHPA. Generally, a PA, which is negotiated among the agency (Fort Belvoir), the SHPO, and the ACHP, develops stipulations that will be employed to ensure that adverse effects do not occur. The general public will be notified of the consultation process and allowed time to comment. After reaching final agreement, the PA is signed by the Council, the SHPO, the Agency official, and all other consulting parties.²⁵ Execution of the stipulations evidences the agency's fulfillment of its Section 106 responsibilities.

A PA can be developed for large and complex projects or for a class of recurrent undertakings that would otherwise require Section 106 review on a case-by-case basis. Situations appropriate for the development of a PA include:

- undertakings whose effects on historic properties are similar and repetitive or are multi-state or national in scope;
- undertakings whose effects on historic properties cannot be fully determined prior to approval;
- undertakings for which non-Federal parties have been delegated major decision-making responsibilities;

- development of regional or land-management plans; or
- routine management activities at Federal installations.

Because undertakings at Fort Belvoir are often similar and repetitive, negotiation of a PA can streamline the consultation process with the SHPO and the Advisory Council on Historic Preservation (AHP). A Draft Programmatic Agreement has been appended to this draft ICRMP.

Periodic Review of the ICRMP

The Fort Belvoir ICRMP is designed to be a dynamic document that responds to changing mission priorities, planning, and development goals at the installation, and that provides guidance on a wide range of potential CRM situations. The plan requires periodic revisions in order to remain effective. As a matter of practice, the ICRMP requires periodic re-evaluations of known cultural resources, evaluations of potential resources, review of the effectiveness of planning strategies, and revisions to the points of contact for consultation.

STANDARD OPERATING PROCEDURES

The standard operating procedures in this section were developed to assist Fort Belvoir in complying with all Federal laws and regulations concerning cultural resources management. The three-ring binder format was adopted to permit substitution when procedures are revised by the originating agencies.

Users should note that Procedures 1-3 apply to compliance with Section 36 CFR 800, the ACHP regulations. Procedure #1 has been modified to reflect revisions made by the ACHP during the Spring of 1999. Appendix I of this ICRMP contains the full text of these revised Section 106 procedures and copies of current Department of the Army regulations (DA 200-4 and DA PAM 200-4). Additional information on how to reference the current texts of all other relevant cultural resources statutes and implementing regulations also is presented in Appendix I.

The following procedures should be incorporated into Fort Belvoir's current management framework:

- Procedure 1: Section 106 Compliance
- Procedure 2: Assessing Effects on Historic Properties
- Procedure 3: Public Participation During Section 106 Consultation Process
- Procedure 4: Archeological Resource Protection Act (ARPA) Compliance
- Procedure 5: National Environmental Policy Act (NEPA) Compliance
- Procedure 6: Native American Graves Protection and Repatriation Act (NAGPRA) Compliance
- Procedure 7: American Indian Religious Freedom Act (AIRFA) Compliance
- Procedure 8: Emergency Procedures for Unexpected Discoveries of Archeological Deposits
- Procedure 9: Curation of Archeological Collections
- Procedure 10: Emergency Procedures for Architectural Resources
- Procedure 11: Economic Analysis for Demolition of Historic Buildings

STANDARD OPERATING PROCEDURE 1: SECTION 106 COMPLIANCE

Please Note: This SOP is based on 36 CFR 800 in effect as of 17 June 1999. The new regulations allow three options for undertaking Section 106 consultation. The following SOP is based on the standard regulation. The consultation process may also be integrated into other compliance processes, such as NEPA. In addition, the Army may develop alternative procedures for the Section 106 consultation process; draft counterpart regulations are under development by AEC, but not yet available.

The Cultural Resources Manager (CRM) is designated as the POC for the Section 106 process undertaken at Fort Belvoir, including those projects proposed by tenant organizations that are subject to the Section 106 process. Section 106 of the National Historic Preservation Act of 1966, as amended, requires Federal agencies to consider the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation (the Council) a reasonable opportunity to comment on such undertakings. The Section 106 process must be completed for undertakings that affect historic properties at Fort Belvoir *prior* to starting work. Initiating the Section 106 process in a project's early planning stages allows the fullest range of options to minimize or mitigate any adverse effects on historic properties.

An historic property is any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (36 CFR 800.16(l)). Historic built resources currently identified at Fort Belvoir include the National Register-eligible Fort Belvoir Historic District, the U.S. Army Package Power Reactor (SM-1 Plant); and two individual properties, the Camp A. A. Humphreys Pump Station and Filter Building and the Thermo-Con House; the National Register eligible Woodlawn Friends Meeting House and Cemetery also is surrounded by, but is not part of, Fort Belvoir. Fort Belvoir also encompasses the National Register listed Belvoir Manor Ruins and Fairfax Gravesites archeological site, and 11 other archeological sites have been assessed as National Register eligible.

Fort Belvoir is responsible for initiating the Section 106 process. Consultation is undertaken among the Agency official (in this case, an official at Fort Belvoir with approval authority (36 CFR 800.2(a)), the State Historic Preservation Office (SHPO), and consulting parties (See SOP 3). Consulting parties include those individuals or organizations with an interest in the effects of the undertaking on the historic properties; Section 800.2(c) identifies those parties having a consultative role in the Section 106 process. The Council also may be a participant in the consultation process if the criteria defined in 36 CFR 800, Appendix A, are met. Under the new regulation, SHPOs have been assigned key roles in Section 106 consultation. Consultation for undertakings involving historic properties at Fort Belvoir will be conducted with the Virginia Department of Historic Resources (VDHR), which is the SHPO. This state agency maintains a full-time staff to assist agencies in consultation. The SHPO is required to respond to requests for project review within 30 days after receiving appropriate documentation.

The procedure set forth below defines how Fort Belvoir meets these statutory requirements based on the standard regulations. The Section 106 process consists of four primary steps (Figure 13):

Step 1: Initiate Section 106 Process

Step 2: Identify Historic Properties

Step 3: Assess Adverse Effects

Step 4: Resolve Adverse Effects

Procedure

Step 1: Initiate Section 106 Process

1. *Establish undertaking.* The CRM will determine whether the proposed action or activity meets the definition of an “undertaking” (Section 800.16(y)) and, if so, whether it is a type of activity that has the potential to cause effects on historic properties. An undertaking is defined as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency (36 CFR 800.16(y)). DIS personnel, tenant organizations, and agents must consult with the CRM to determine whether a proposed action constitutes an undertaking. An undertaking will have an effect on a historic property when the action has the potential to result in changes to the character or use of the historic property within the area of potential effects. The area of potential effects is defined as "the geographic area(s) within which an undertaking may directly or indirectly cause changes in the historic character or use of historic properties, if any such properties exist" (36 CFR 800.16(a)).
 - 1(a). *No potential to cause effects.* If the undertaking does not have the potential to cause effects on historic properties, the CRM has no further obligations under Section 106 and the action may proceed. CRM should document decision for internal information (see Figure 14: Sample letter documenting “No Historic Properties” decision).
 - 1(b). *Potential to cause effects.* The undertaking is determined to have the potential to cause effects on historic properties. Go to 2.
2. *Coordinate with other reviews.* The CRM coordinates the Section 106 review, as appropriate, with the installation planning schedule and with any other required reviews (i.e., NEPA, NAGPRA). The CRM may use information from other review documents to meet Section 106 requirements.
3. *Identify the appropriate SHPO.* The CRM will determine the appropriate SHPO for consultation during the planning process. The CRM will identify other consulting parties (See SOP 3).
4. *Plan for public involvement.* In consultation with the SHPO, the CRM will plan for involving the public in the Section 106 process (See SOP 3).
5. *Identify other consulting parties.* In consultation with the SHPO, the CRM shall identify any other parties entitled to be consulting parties, including local government or applicants, and consider all written requests of individuals and organizations to determine which entities should be consulting parties (See SOP 3).

The Revised Section 106 Process: Flow Chart

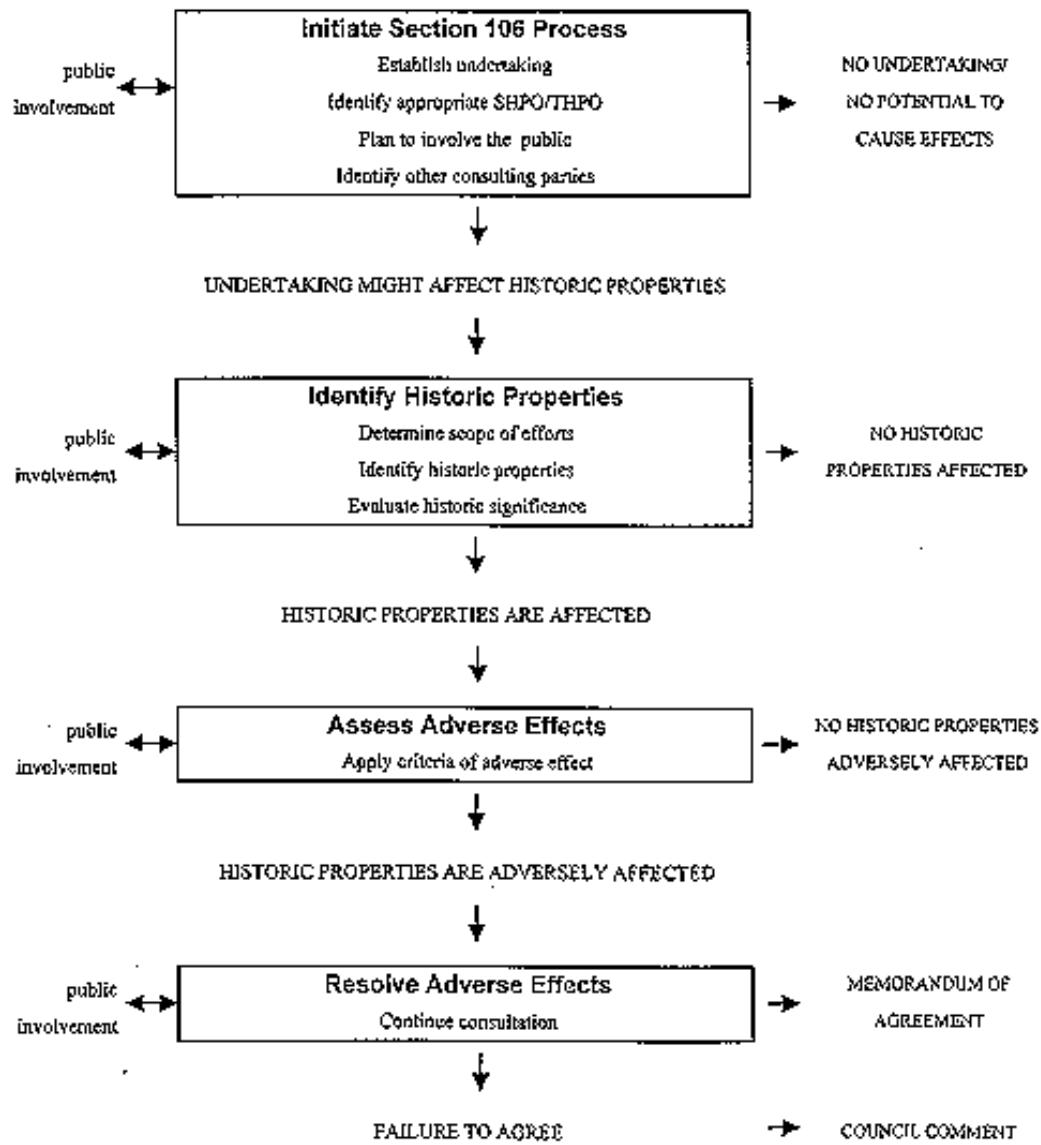


Figure 13. Schematic diagram of the Section 106 compliance process (revised June, 1999)

Windows and Doors	
• Are windows, doors, and frames rotted or corroded?	
• Have windows and doors been checked for condensation damage?	
• Are window panes intact?	
• Are screens intact and in place?	
• Do windows operate properly?	
• Is glazing putty intact?	
• Is caulking around window frames intact?	
• Are window/door sills angled properly to shed water?	
INTERIOR CONDITIONS	
Walls	
• Have walls been checked for cracks?	
• Are walls free of water stains?	
Ceilings	
• Are ceilings free of water stains?	
• Have ceilings been checked for cracks?	
Basement	
• Has basement been inspected for insect infestation?	
• Are rodents?	
• Water penetration?	
Floors	
• Is floating material intact?	
• Are floor joists intact (check basement)?	
• Has flooring been checked for water stains?	
Ventilation	
• Is the building properly ventilated?	
• Has building interior been checked for condensation?	

<i>Utilities</i>			
• Are smoke/fire detectors in working order?			
• Have heating and electrical systems been inspected?			
• Do heat or A/C filters need replacing?			

Director, State Historic Preservation Office
Virginia Department of Historic Resources
Commonwealth of Virginia
2801 Kensington Avenue
Richmond, VA 23221

Dear _____:

Fort Belvoir is planning the [name of project], [name of State]. We have found no historic properties existing within the project's area of potential effects (Section 800.4). The following documentation is attached for your review:

A description of the [name of project], including [specify maps, photographs, etc.];

A delineation of the area of potential effects; and

A summary description of the efforts we made to identify historic properties in the project's area of potential effects, including [specify survey report, etc.].

Please review the material enclosed and contact [name and telephone number of contact person] if you have any questions. If we do not hear from you within 30 days after your receipt of this letter, we will assume that you do not object to our determination, and will proceed with [the project/our planning process/our review of the application/etc.], subject to the provisions for treating historic properties discovered during implementation of an undertaking contained in 36 CFR Section 800.11.

Sincerely,

[name of agency official], USA
Garrison Commander

Figure 14. Sample letter documenting "No Historic Properties" decision.

Step 2: Identify Historic Properties

6. *Determine scope of identification efforts and identify historic properties.* The CRM, in consultation with the SHPO, will determine and document the area of potential effects of the undertaking and review the existing historic property inventory (see Chapter II) to determine whether or not historic properties are located within the proposed area(s) of effect. The CRM may also seek information from consulting parties, as appropriate. Select option 6(a) or 6(b).
 - 6(a). *Historic properties affected.* The CRM determines that historic properties will be affected by undertaking and/or are located within the area of potential effects. Go to 7.
 - 6(b). *No historic properties affected.* The CRM determines that there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them. The CRM provides documentation of this finding, as set forth in 36 CFR 800.11(d), to the SHPO. The CRM also notifies all consulting parties of the decision and makes the documentation available to the public. A sample letter documenting such a "No Effect" decision is presented in Figure 15. Select option 6(b)1 or 6(b)2.
 - 6(b)1. If SHPO does not object within 30 days of receipt of an adequately documented finding, Fort Belvoir's responsibilities under Section 106 are fulfilled. The action may proceed.
 - 6(b)2. SHPO disagrees with Fort Belvoir's determination and the proposed undertaking is considered to have an "effect" on historic properties. Go to 7.

Step 3: Assess Adverse Effects

7. *Apply criteria of adverse effect.* The CRM, in consultation with the SHPO and consulting parties, assesses the effect(s) of the proposed undertaking on historic properties following the criteria of adverse effect outlined in 36 CFR 800.5 and in DA PAM 200-4, Appendix C. Select option 7(a) or 7(b).
 - 7(a). *Finding of no adverse effect.* The CRM, in consultation with the SHPO, determines that the proposed undertaking does not meet the criteria of adverse effect (36 CFR 800.5(a)(1)) and, therefore, will have no adverse effect on historic properties. A finding of no adverse effect also may result if the undertaking is modified or conditions are imposed, such as subsequent review of plans for rehabilitation by SHPO, to ensure consistency with the *Secretary's Standards for the Treatment of Historic Properties* (36 CFR part 68), to avoid adverse effects.

The CRM documents the finding of no adverse effect following standards set forth in 36 CFR 800.11(e). The CRM notifies the SHPO and all consulting parties of the finding and provides them with the documentation. The SHPO must respond to the finding within 30 days. A sample letter documenting a

“No Adverse Effect” finding is presented as Figure 16. Select option 7(a)1 or 7(a)2.

- 7(a)1. *Agreement with finding.* If the Council is not involved in the review process, the action may proceed if the SHPO agrees with the finding. Failure of the SHPO to respond within 30 days from receipt of documentation shall be considered agreement of the SHPO with the finding.
- 7(a)2. *Disagreement with finding.* If the SHPO or any consulting party disagrees with Fort Belvoir's determination within the 30-day review period, it responds in writing and specifies the reasons for disagreeing with the finding. The CRM can either consult with the party to resolve disagreement or request Council to review the decision. Go to 8.

7(b). *Finding of adverse effect.* If it is determined that the proposed undertaking will have an adverse effect on historic properties, the CRM will consult further to resolve the adverse effect. Go to 8.

Step 4: Resolve Adverse Effects

8. *Continue consultation.* The CRM continues consultation with the SHPO and consulting parties (see SOP 3) to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties. The CRM submits documentation specified in 36 CFR 800.11(e) to the Council to notify them of the adverse effect finding. Fort Belvoir can request the Council to participate in the consultation or the Council can decide to enter consultation proceedings based on criteria in 36 CFR 800, Appendix A. The Council has 15 days to notify the CRM and consulting parties whether it will participate in adverse effect resolution.

In addition to the consulting parties identified under 36 CFR 800.3(f), other individuals and organizations can be invited to become consulting parties. The CRM makes information available to the public, including the documentation specified in 36 CFR 800.11(e), and provides an opportunity for comment about resolving the adverse effects of the proposed undertaking. Select option 8(a) or 8(b).

- 8(a) *Resolve adverse effect - resolution without Council.* Fort Belvoir, the SHPO, and consulting parties agree on how the adverse effects will be resolved and execute a Memorandum of Agreement (MOA)(see Figure 17). The CRM must submit a copy of the executed MOA, along with the documentation specified in 36 CFR 800.11(f), to the Council prior to approving the undertaking to meet the requirements of Section 106. Go to 9.
- 8(b) *Resolution with Council participation.* If consultations between Fort Belvoir and the SHPO fail to result in a MOA, Fort Belvoir will request Council participation and provide them with documentation specified in 36 CFR 800.11(g). If the Council joins the consultation, Fort Belvoir will proceed with consultations in accordance with 36 CFR 800.6(b)2 to reach an MOA.

[name of current Director]
Director, State Historic Preservation Office
Department of Historic Resources
Commonwealth of Virginia
2801 Kensington Avenue
Richmond, VA 23221

Dear [name of current Director]:

Fort Belvoir is planning the [name of undertaking], [name of State]. We have applied the Criterion of Effect found in 36 CFR Section 800.8 of your regulations to this undertaking and determined that it will have no effect on historic properties. The following documentation is attached for your review:

A description of the [name of undertaking], including [specify maps, photographs, etc.];

A delineation of the area of potential effects;

A summary description of the efforts we made to identify historic properties in the undertaking's area of potential effects, including [specify survey report, etc.]; and

A description of how we applied the Criterion of Effect, and why we found it to be inapplicable to this undertaking.

Please review the material enclosed and contact [name and telephone number of contact person] if you have any questions. If we do not hear from you within 15 days after your receipt of this letter, we will assume that you do not object to our determination, and will proceed with [the undertaking/our planning process/our review of the application/etc.], subject to the provisions for treating historic properties discovered during implementation of an undertaking contained in 36 CFR Section 800.11.

Sincerely,

[name of agency official], U.S. Army
Commander

Figure 15. Sample letter documenting "No Effect" decision

[Name of current Director]
Director, State Historic Preservation Office
Virginia Department of Historic Resources
Commonwealth of Virginia
2301 Kensington Avenue
Richmond, VA 23221

Dear _____:

Fort Belvoir is planning the [name of undertaking], [name of State]. In consultation with the Virginia State Historic Preservation Officer (SHPO), we have applied the Criteria of Effect and Adverse Effect found in 36 CFR Section 800.9 of your regulations to this undertaking and determined that it will have no adverse effect on historic properties. As indicated by [initials signature below the attached letter], the SHPO has concurred in our determination. The following summary documentation is attached for your review.

A description of the [name of undertaking];

A [map or other documentation] showing the area of potential effect;

A summary description of the historic [property/properties] subject to effect;

Our reasons for believing that the undertaking will have no adverse effect on historic properties;

A copy of the SHPO's letter of [date] indicating concurrence in our determination [or have SHPO sign concurrence line on letter]; and

[Copies/A summary] of the views of [specify interested persons who have submitted comments, if any]

[Use one or more of the following paragraphs only if relevant.]

Since our determination that this undertaking will have no adverse effect is based on the specific exception set forth in 36 CFR Section 800.9(c) (specify subsection (1), (2), or (3)), we are also enclosing [specify research design or scope of work for data recovery under subsection (1), plan for rehabilitation under subsection (2), or covenant or other restriction under subsection (3)].

In making our determination, we have agreed with the SHPO to carry out the following actions to ensure that adverse effect will be avoided:

[List actions agreed to.]

Please review the material enclosed and contact [name and telephone number of contact person] if you have any questions. If we do not hear from you within 30 days after your receipt of this letter, we will assume that you do not object to our determination, and will proceed with [the undertaking/our planning process/our review of the application/etc.], subject to [the agreement noted above and] the provisions for treating historic properties discovered during implementation of an undertaking contained in 36 CFR Section 800.14.

Sincerely,

[Name of agency official], U.S. Army
Commander

Figure 16. Sample letter documenting "No Adverse Effect" decision

MEMORANDUM OF AGREEMENT

WHEREAS, the [name of agency] has determined that [name of undertaking] will have an effect upon [name of property or properties], (a property/properties) [included in/eligible for inclusion in] the National Register of Historic Places, and has consulted with the [name of State] State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); (and Section 110(f) of the same Act (16 U.S.C. 470h-2(f)) and

WHEREAS, [names of other consulting parties, if any] participated in the consultation [and has/have been invited to concur in this Memorandum of Agreement]; and

WHEREAS, the definitions given in Appendix _____ are applicable throughout this Memorandum of Agreement.

NOW, THEREFORE, [name of agency], the [name of State] SHPO, and the Council agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

Stipulations

[Name of agency] will ensure that the following measures are carried out:

[Insert stipulations here.]

Execution of this Memorandum of Agreement and implementation of its term evidence that [name of agency] has afforded the Council an opportunity to comment on the [name of undertaking] and its effects on historic properties, and that [name of agency] has taken into account the effects of the undertaking on historic properties.

ADVISORY COUNCIL ON HISTORIC PRESERVATION:

By: _____ Date: _____
[Name and title of signer]

[NAME OF AGENCY]

By: _____ Date: _____
[Name and title of signer]

[NAME OF STATE] STATE HISTORIC PRESERVATION OFFICER:

By: _____ Date: _____
[Name and title of signer]

[Note: Signature blocks listed above can be in any order.]

Concur:¹

[NAME(S) OF CONCURRING PARTY/PARTIES]

By: _____ Date: _____
[Name and title of signer]

¹Optional: For use where other parties concur in MOA.

Figure 17. Sample Memorandum of Agreement

If the Council decides not to join consultations, the Council will notify Fort Belvoir and proceed to comment. Go to 11.

9. ***Memorandum of Agreement.* The Council receives the MOA for filing. Fort Belvoir has discharged its compliance responsibilities under Section 106. The proposed undertaking can proceed, according to any MOA stipulations.**
10. ***Failure to resolve adverse effect - termination of consultation.* Fort Belvoir, SHPO, or the Council determine that further consultation will not be productive and terminates consultation by notifying all consulting parties in writing and specifying reasons for termination. Select 10(a), 10(b), or 10(c).**
 - 10(a). If Fort Belvoir terminates consultation, Fort Belvoir requests Council comment pursuant to 36 CFR 800.7(c) and notifies all consulting parties of request. Go to 11.
 - 10(b). If SHPO terminates consultation, Fort Belvoir and the Council may execute a MOA. Fort Belvoir may then proceed with undertaking according to any stipulations in the MOA.
 - 10(c). If the Council terminates consultation, the Council notifies Fort Belvoir, Federal Preservation Officer (FPO), and consulting parties and provides comments to FPO under 36 CFR 800.7(c). Go to 11.
11. ***Comments by the Council.* The Council has 45 days after receipt of request to provide comments. The Council will allow an opportunity for Fort Belvoir, consulting parties, and general public to provide their views. The Council will provide its comments to head of agency with copies to Fort Belvoir, FPO, and all consulting parties. Select 11(a) or 11(b).**
 - 11(a). The head of agency takes into account the Council comments and Fort Belvoir implements the Council comments. Project may proceed.
 - 11(b). The head of agency takes into account the Council comments and Fort Belvoir does not implement the Council comments. The head of the agency shall document the final decision in accordance with 36 CFR 800.7(4). All consulting parties are notified of decision. Project may proceed.

Proceed

Once a signed MOA or Council comment has been received, Fort Belvoir can, subject to the terms of any agreement that has been reached, proceed. This is the end of the Section 106 compliance process. All documentation and correspondence regarding the process should be kept on file in CRM office.

STANDARD OPERATING PROCEDURE 2: ASSESSING EFFECTS ON HISTORIC PROPERTIES

The Section 106 review process requires Fort Belvoir to assess the effects of undertakings on historic properties. An “undertaking” is defined as any project, activity, or program that potentially results in changes to the character or use of a National Register eligible or listed historic property located in the Area of Potential Effects (Section 800.2[o]). For Fort Belvoir managers to assess effect, they must be able to determine what constitutes an effect on an historic property, and then reach a formal decision of effect in consultation with the SHPO. Therefore, the Cultural Resources Manager (CRM) should be informed of any actions that may affect cultural resources at Fort Belvoir prior to initiating work.

Several National Register eligible or listed historic properties are located on or immediately adjacent to Fort Belvoir. One archeological site, the Belvoir Manor Ruins and Fairfax Grave Site (44FX4), is listed in the National Register of Historic Places. Table 5 in Chapter II identifies other archeological sites at Fort Belvoir that have been assessed as eligible for listing in the National Register. Architectural properties currently identified as National Register-eligible include: the Fort Belvoir Historic District; the U.S. Army Package (Nuclear) Power Reactor Multiple Property; and three individually significant properties (Woodlawn Friends Meeting House, Camp A.A. Humphreys Pump Station and Filter Building, and the Thermo-Con House). Table 6 in Chapter II summarizes the current inventory of architectural resources at Fort Belvoir.

Criteria of Effect

According to Federal Regulation 36 CFR 800.9, undertakings can be determined to have *no effect*, an *adverse effect*, or *no adverse effect* upon historic properties. Fort Belvoir must first determine when an effect occurs by applying the **Criteria of Effect** to an undertaking. The process of determining effect should be carried out in consultation with the SHPO.

Advisory Council regulations define "Effect" in two parts: (1) the **Criteria of Effect** (800.9[a]) determine whether there will be an effect; and (2) the **Criteria of Adverse Effect** (800.9[b]) determine whether the effect is harmful (AHP 1995:II-51).

Effect/No Effect. An undertaking is determined to have **no effect** when no historic properties are determined to be affected directly or indirectly by the undertaking. If an undertaking is determined to have no effect on a historic property, the appropriate documentation should be made available to the SHPO and to interested persons who have made their concerns known to the Agency Official (36 CFR 880.5[b]). Unless the SHPO objects within 15 days of receiving such notice, no further steps in Section 106 are required (See Standard Operating Procedure 1).

A proposed undertaking is determined to have an **effect** if it: (a) alters the characteristics of a historic property that qualify it for the National Register; or (b) alters features of a historic property's location, setting, or use that contribute to its significance. Simply stated, any action that results in changes to specific features of an historic property is considered as an effect. It is essential, therefore, to identify those characteristics that make a property significant in assessing effects.

Adverse Effect. If it is determined that a proposed project will have an effect on a historic property, the project next must be assessed to determine whether it will result in an **adverse effect**. The base official should apply the **Criteria of Adverse Effect** in making this determination. These criteria stipulate that an effect will be adverse if an undertaking:

- causes physical destruction, damage, or alteration of all or part of the affected historic property;
- isolates the historic property from, or alters the character of, the property's setting, when that setting contributes to the property's qualification for the National Register;
- introduces visual, audible, or atmospheric elements that are out of character with the historic property, or that alter its setting;
- results in neglect of a property that results in the deterioration or destruction of that property; and
- results in the transfer, lease, or sale of the property.

After these criteria have been applied, Fort Belvoir must make a formal determination as to whether the project will have **no adverse effect** or an **adverse effect**, again in consultation with the SHPO, at the discretion of Fort Belvoir.

Mitigation of adverse effect. Fort Belvoir and the SHPO may agree upon measures to avoid the adverse affect. If an undertaking is determined to have an adverse effect upon a historic property, action may be taken to:

- revise the specifications of the project that will impact the resource; or
- mitigate the adverse effects of the project upon the resource so that the essential historic value of the property is preserved, even though the property itself may be impacted.

Exceptions. There are exceptions to the above Criteria of Adverse Effect. For regulatory purposes, an undertaking that normally would be found to have an adverse effect may be considered to have no adverse effect when:

- the affected historic property is of value only for its potential contribution to archeological, historical, or architectural research, **and** this value can be preserved by conducting research on the property, in accordance with applicable professional standards and guidelines;
- the undertaking is limited to the rehabilitation of buildings and structures, **and** is conducted in a manner that preserves the historical and architectural value of the affected historic property through compliance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*; or

- the undertaking is limited to the transfer, lease, or sale of an historic property, **and** adequate restrictions or conditions are included to ensure preservation of the property's significant historic features (36 CFR 800.9).

Summary of Procedure

1. Determine if historic properties are present.

Consult Chapter II, *Cultural Resources Identification and Evaluation*, for current cultural resources inventory. Actions will have no effect when no historic properties are present.

2. Determine nature of proposed action or repair.

When any doubt exists about the effects of a proposed action on cultural resources, action should be submitted to CRM for internal review.

3. Notify CRM of proposed action or repair.

CRM is responsible for determining what action is required under Section 106 of the NHPA.

4. CRM will initiate Section 106 consultation as required.

All Section 106 consultation required for historic properties located at Fort Belvoir will be initiated and conducted by the Cultural Resources Manager (CRM).

STANDARD OPERATING PROCEDURE 3: PUBLIC PARTICIPATION DURING SECTION 106 CONSULTATION

Identification of Resources

In accordance with Section 470h-2 of the National Historic Preservation Act, Fort Belvoir has established a preservation program for the identification, evaluation, protection, and nomination to the National Register of its historic properties. To that end, Fort Belvoir has conducted numerous studies of its historic properties, including surveys to identify archeological sites and historic buildings; evaluation studies to determine the eligibility of sites and buildings for listing in the National Register; and preparation of National Register nominations for specific archeological properties, individual historic buildings, and historic districts.

Fort Belvoir's commitment to the stewardship of its historic properties includes compliance with 36 CFR Part 800.2(c), which requires the inclusion of consulting parties in the NHPA Section 106 process. The procedure set forward here outlines the procedure for maintaining continuing public participation in ongoing identification and evaluation efforts.

Procedure for Public Participation

Fort Belvoir will distribute the final reports from general studies already conducted at the installation to the interested parties defined below:

- Adjacent National Register listed and eligible properties, including Woodlawn Plantation, Mount Vernon, Pohick Church, Gunston Hall, and *the Woodlawn Friends Meeting*;
- The Fairfax County *Architectural* Review Board; and
- The office of the Fairfax County Supervisor for the Mount Vernon District.

For future studies conducted at the installation, Fort Belvoir will:

- Distribute surveys that identify and assess the National Register eligibility of buildings (i.e. HABS and regular interval surveys conducted on Buildings 45-50 year old) to interested parties for their review and comment.
- Furnish to interested parties copies of Fort Belvoir's SHPO consultation correspondence as a means of notifying such parties of undertakings on the installation and to serve as an invitation to participate in the consultation.

- At the request of interested parties, circulate correspondence between the State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), and Fort Belvoir on specific undertakings, including cases where these regulatory bodies have determined that Fort Belvoir's undertaking will have an adverse effect on historic properties.

STANDARD OPERATING PROCEDURE 4: ARCHEOLOGICAL RESOURCE PROTECTION ACT (ARPA) COMPLIANCE

ARPA requires that permits be issued prior to any excavating or removing archeological resources on Federal property or on property under Federal control. Issuance of a permit is not considered an undertaking and does not by itself require Section 106 review; however, acquisition of a permit also does not fulfill the requirements of Section 106 review.

Upon receipt of an application for a permit to excavate or remove an archeological resource, the CRM shall ensure that:

- the applicant is qualified to carry out the permitted activity;
- the activity is undertaken for the purpose of furthering archeological knowledge in the public interest and for the purpose of Section 110 and 106 compliance;
- the archeological resources that are excavated or removed from public lands will remain the property of the United States, and such resources and copies of associated archeological records and data will be curated in a repository that meets the standards established by 36 CFR 79; and,
- the activity pursuant to the permit is consistent with any management plan applicable to the public lands concerned.

Further details on the terms and conditions of the permit are spelled out in ARPA.

STANDARD OPERATING PROCEDURE 5: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE

Under NEPA, Federal agencies are responsible for considering the effect their actions will have on the environment, including cultural resources. The intention of NEPA regarding cultural resources is similar to NHPA, but Federal agencies must remember that compliance with one statute does not constitute compliance with the other. Agencies may, however, coordinate studies and documents to be completed in accordance with both Section 106 and NEPA compliance. Coordination of Section 106 compliance and NEPA can be accomplished by:

- Identifying and evaluating cultural resources and determining if a project has a potential effect on them while preparing NEPA documents. Consult Cultural Resources Manager (CRM) for determination of effect.
- The CRM determining the effect of the project and deciding if Section 106 review is necessary.
- Using the draft environmental impact statement (EIS) or environmental assessment (EA) as the basis for NEPA consultation and/or Section 106 review.
- Including the results of any consultation, an MOA, or ACHP comments in the final NEPA report.

STANDARD OPERATING PROCEDURE: NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (NAGPRA) COMPLIANCE

This law, enacted in 1990, governs the repatriation and protection of Native American (American Indian, Inuit, and Hawaiian native) remains, associated and unassociated funerary objects, sacred objects, and objects of "cultural patrimony" on lands controlled or owned by the United States. The following sections present general DoD principles underlying the Native American consultation process, as well as procedures to be followed with regard to existing collections, intentional excavations, and inadvertent discoveries.

General Principles for Native American Consultations

Native Americans often have strong religious and cultural ties to natural areas. Where applicable, DoD must consider these interests in land management decision making through consultation to identify and protect Native American cultural resources. DoD shall carry out consultations with Native American tribal governments in a manner that respects the sovereign status of each such federally recognized tribe. DoD shall consult to the greatest extent practicable and to the extent permitted by law prior to taking actions that affect the protected interests of Federally recognized tribal governments. Consultation shall be conducted with sensitivity to cultural values, socio-economic factors, and the administrative structure of the native group (DODI 4715.3 1996).

The following are the goals of the consultation process:

- Increase DoD awareness of the requirements of Native American cultures and religions, while increasing Native American awareness of DoD mission requirements.
- Increase Native American participation, as appropriate, in consultations on DoD actions and decisions that affect issues of significance to Native Americans.
- Educate DoD personnel about relevant policies and laws on Native Americans.
- Provide access by Native Americans to sacred and religious sites on DoD lands.
- Protect Native American cultural and historical resources on DoD lands or on non-DoD lands used by the Department of Defense (DODI 4715.3 1996).

At this time, no Federally recognized Native American tribes are located in Virginia. There are, however, several organized tribes recognized by the Commonwealth of Virginia, including the Upper Mattaponi, United Rappahannock, Chickahominy and East Branch Chickahominy, Nansemond, and Monacan. The state-wide organization that represents both organized tribes and

unorganized Native Americans is the Virginia Council on Indians, 622 9th St. Office Building, Richmond, VA 23219.

Existing Collections

NAGPRA requires Federal agencies and Federally-funded museums to identify the cultural affiliation of human remains and certain cultural items in their possession or control and to notify the Indian tribes, including Alaska Native regional and village corporations, Native Hawaiian organizations, and/or closest lineal descendants who are likely to be culturally affiliated with the human remains and cultural items. Furthermore, it calls for these remains and cultural items to be made available for return to the respective Native groups or closest lineal descendants, if they so request. The summary, inventory, and repatriation of human remains and cultural items defined in NAGPRA shall occur in accordance with NAGPRA (43 CFR Parts 10.5-10.7).

Currently, the collections resulting from archeological investigations conducted at Fort Belvoir contain no identified tribal human remains, funerary objects, sacred objects, or objects of cultural patrimony, according to a 1996 assessment by the US Army Corps of Engineers, St. Louis District.²⁶ Future projects, however, should consider the need for NAGPRA compliance in case of inadvertent discoveries of Native American artifacts. If future investigations reveal the possibility of Native American sites being discovered, Fort Belvoir is encouraged to prepare a mitigation plan in advance.

Intentional Excavations and Inadvertent Discoveries

Consultation with Federally recognized Indian tribes or other Native American organizations is required by NAGPRA when human remains or other cultural items (defined in 25 U.S.C. 3001), or when a site of religious or cultural importance is found during either intentional excavations or by inadvertent discovery on DoD property. To the extent possible, the installation should consult with the tribe(s) early in the planning process (DODI 4715.3 1996). Consultation is undertaken to determine the cultural affiliation of human remains and specific cultural items and (2) to determine custody (or disposition) of recovered items. In cases of intentional excavation or inadvertent discovery of human remains and cultural items on federal lands, the procedures set out in 43 CFR Part 10.3(c-d) shall be followed. Figure 18 presents a diagram of the NAGPRA process.

Intentional Excavations

- Any planned excavations will be coordinated with the Cultural Resources Manager (CRM).
- Fort Belvoir will take reasonable steps to determine whether a planned activity may result in the excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony from DoD lands. **Refer to ICRMP, Inventory of Archeological Resources (Chapter II) and/or conduct Phase I archeological investigations.**

Native American Graves Protection and Repatriation Act

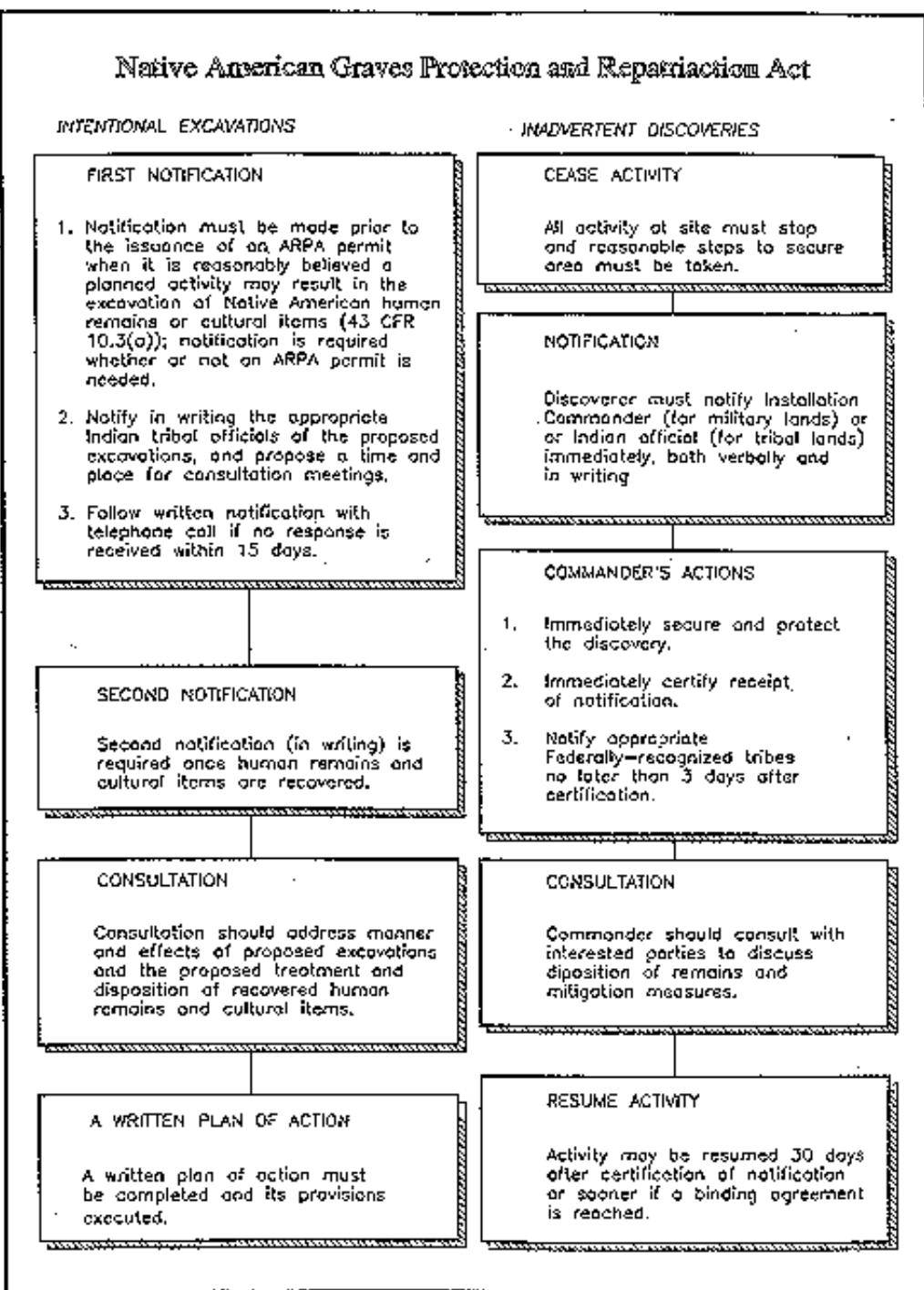


Figure 18. Schematic diagram of the NAGPRA consultation process

- If **identified** remains or artifacts are to be excavated intentionally, Fort Belvoir should proceed in compliance with applicable ARPA, NHPA and NAGPRA regulations.
- Prior to issuing any approvals or permits for activities, Fort Belvoir must notify in writing the tribe(s) that are likely to be culturally affiliated with artifacts etc (43 CFR 10.3[a]). Notice must be in writing and describe the planned activity, its general location, and the basis upon which it was determined that human remains or objects may be excavated. The notice must also propose a time and place for meetings or consultations to consider the proposed activity, and Fort Belvoir's treatment and disposition of any remains or objects. Written notification should be followed by telephone contact if there is no response within 15 days.
- Notify the Installation Commander in writing of planned excavation and consultation.
- Consultation should address manner and effects of proposed excavations, and the proposed treatment and disposition of recovered human remains and cultural items.
- Following consultation, Fort Belvoir must complete a written plan of action and execute its provisions.

Inadvertent Discoveries

- Immediately stop any excavations that discover **ANY** human remains and make reasonable efforts to protect the burials and site.
- Contact the installation CRM and the Police immediately following the discovery.
- Contact the Department of the Interior's Departmental Consulting Archeologist (DCA) (Archeology Assistance Division, National Park Service, Washington DC 20013-7127 [(202) 343-4101]), and advise of the nature of the discovery. If known, provide as much information as possible concerning the cultural resource, such as resource type, date, location, and size, and any information as to its eligibility. The DCA retains the option of notifying and consulting with the ACHP and VDHR, who may require an on-site examination of the affected remains. The DCA will determine the significance and origin of the remains and what mitigation measures to take.
- If Fort Belvoir has reason to know that it has discovered Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony, Fort Belvoir must provide immediate telephone notification of the discovery, **with written confirmation**,

to the Departmental Consulting Archeologist (DCA), and appropriate DoD contacts.

- In the event that Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered, the installation should:
 - 1) Immediately secure and protect the discovered site by providing appropriate stabilization or covering.
 - 2) Immediately certify receipt of notification.
 - 3) Notify by telephone **with written confirmation** the appropriate Federally-recognized tribes **no later than 3 days after certification**. This notification must include pertinent information as to kinds of human remains, funerary objects, sacred objects, or objects of cultural patrimony, their condition and the circumstances of their discovery.
- The Commander should consult with interested parties to discuss disposition of remains and mitigation measures. Consultation is required for the inadvertent discovery of human remain, funerary objects, sacred objects, or objects of cultural patrimony discovered on federal or tribal lands (43 CFR Part 10.4(a)).
- Resume activity. Activity may be resumed 30 days after certification of notification, or sooner if a binding agreement is reached.

STANDARD OPERATING PROCEDURE 7: AMERICAN INDIAN RELIGIOUS FREEDOM ACT (AIRFA) COMPLIANCE

AIRFA promotes coordination with Native American religious practitioners regarding effects of Federal undertakings upon their religious practices. Undertakings that alter or affect flora and fauna, viewsheds, artifacts, and sites that may be important to Native Americans may be covered under this legislation. For more information, contact the Army Federal Preservation Officer, or AEC.

STANDARD OPERATING PROCEDURE 8: EMERGENCY PROCEDURES FOR UNEXPECTED ARCHEOLOGICAL DISCOVERIES

Archeological or historical sites occasionally are discovered during construction projects, regardless of whether or not the project area has been subjected to a comprehensive cultural resources survey and inventory. When review of a proposed undertaking suggests that cultural resources are likely to be discovered during the implementation of the undertaking, Fort Belvoir should develop a plan for the treatment of such properties and include this plan in any documentation submitted to the SHPO as part of the effort to assess the effects of the undertaking (36 CFR 800.11[a]).

Like other agencies, Fort Belvoir is not required to stop work on an undertaking in the case of unexpected discoveries. However, the Cultural Resources Manager (CRM) should be informed if prehistoric and historic archeological sites are discovered during construction projects in accordance with DA PAM 200-4, Section 2-4.f(2). The CRM should make reasonable efforts to avoid or minimize damage to the property until it has been assessed (36 CFR 800.11[b][3]).

Procedure

If significant archeological resources, such as intact archeological features, human remains, etc., are discovered, the following steps should be taken immediately:

- Initially, Fort Belvoir must stop work and make reasonable efforts to protect the artifacts and the site.
- The installation CRM should be contacted immediately following the discovery.

A number of options may then be considered.

Option 1

The installation CRM may:

- Contact the Department of the Interior's Departmental Consulting Archeologist (DCA) (Archeology Assistance Division, National Park Service, Washington D.C. 20013-7127 [(202) 343-4101]).
- Advise the DCA of nature of the discovery. If known, provide as much information about the archeological resource, such as resource type, date, location, size, and any information on its eligibility.
- The DCA may notify and consult with the ACHP and SHPO, who may require an on-site examination of the affected property. The

DCA will determine the significance of the resources and suggest appropriate mitigation measures.

- Fort Belvoir complies with provisions governing discoveries in 36 CFR 800.

Option 2

If the archeological discovery is eligible for the National Register, the CRM should:

- immediately prepare a mitigation plan. This plan should be sent to the SHPO and the ACHP.
- The ACHP must respond with preliminary comments within 48 hours; final comments are due within 30 days after the special request is made.

Option 2 is the most time-efficient approach because, technically, the construction project does not have to be halted. However, reasonable attempts should be taken to avoid further destruction to the resource until a formal data recovery mitigation plan can be executed.

Option 3

Option 3 involves the Section 106 compliance process. This option is not recommended in the case of unexpected discoveries, since it can be a time-consuming procedure. If this option is chosen, thorough and complete documentation of the proposed impact and a subsequent mitigation plan must be completed to ensure the technical adequacy required by the SHPO or ACHP.

Discovery of Human Remains

Discovery of human remains, of whatever nature, is a serious archeological problem. In Virginia, archeological investigation of human remains of any sort cannot be authorized without the issuance of a permit from the Virginia Department of Historic Resources. Violation of this portion of the Virginia State Code is a felony offense.

If the discovered remains are identified as Native American in origin, then the remains and associated cultural items shall be managed and repatriated to culturally affiliated or lineally descended Native American organizations in accordance with 25 U.S.C. 3001 and 43 CFR 10. At this point in time, Fort Belvoir as an installation does not possess or control Native American collections or cultural items, Native American remains, or Native American sacred sites or traditional cultural properties (US Army Corps of Engineers St. Louis District 1997). The installation currently is not associated with a Federally-recognized Native American tribe, and no tribal lands are recognized within Fort Belvoir's boundaries.

If any human remains or associated funerary objects are unexpectedly discovered at Fort Belvoir, the following steps should be undertaken:

- **Stop work immediately.**
- Notify installation Commander.
- Contact the CRM.

If the remains are determined to be Native American in origin, Fort Belvoir then will be subject to compliance with NAGPRA (Standard Operating Procedure 6), specifically Section 39d "Inadvertent Discovery of Native American Remains and Objects."

STANDARD OPERATING PROCEDURE 9: CURATION OF ARCHEOLOGICAL COLLECTIONS

If archeological collections result either from unexpected discoveries or from authorized archeological investigations, Fort Belvoir must make efforts to ensure stable long-term storage of the collection. Archeological collections include the artifacts recovered from archeological sites, the documentary records pertaining to the excavations, and the final report. These records may include photographs, field data records and drawings, maps, and other documentation generated during the conduct of the project. Artifacts recovered from future investigations can either be stored in a secure fire-proof facility on the installation or transferred to an outside curation repository that meets federal standards stipulated in 36 CFR 79, *The Curation of Federally-Owned and Administered Archeological Collections*.

The initial processing of material remains (including appropriate cleaning, sorting, labeling, cataloging, stabilizing, and packaging) should be completed by personnel meeting professional qualifications established in 36 CFR 61. Additional rules and regulations are outlined in 36 CFR 79, *The Curation of Federally-Owned and Administered Archeological Collections*.

Fort Belvoir currently maintains the bulk of its archeological collections with the Fairfax County Park Authority's County Archeological Services. This arrangement first was authorized in 1985 by the Center for Military History, and documented in a letter to the Director, Army Environmental Command, and to Fort Belvoir. However, discussions underway at the present time may require transfer of these collections to a central repository to be identified by the Army Environmental Command.

STANDARD OPERATING PROCEDURE 10:

EMERGENCY PROCEDURES FOR

ARCHITECTURAL RESOURCES

This procedure should be initiated in the event of emergencies that affect historic properties at or immediately adjacent to Fort Belvoir. Architectural resources determined eligible for inclusion in the National Register include: the Fort Belvoir Historic District, the U.S. Army Package (Nuclear) Power Reactor Multiple Property, and three individually significant properties (Woodlawn Friends Meeting House, the Camp A. A. Humphreys Pump Station and Filter Building, and the Thermo-Con House). Chapter II, Table 6, contains a complete current inventory of National Register-eligible properties at Fort Belvoir.

Procedure

- Emergency procedures will be initiated as required by the situation. Emergencies include fire, flood, vandalism, and acts of nature, such as falling trees. Appropriate emergency personnel, including fire and police, should be contacted.
- The Cultural Resources Manager (CRM) should be informed of emergency as soon as possible.
- The CRM will review emergency stabilization measures undertaken to protect the historic property and to preserve its historic fabric and features. In general, emergency stabilization measures include *short-term and reversible* repairs that do not harm historic fabric or features.
- The CRM will inform the SHPO of the nature of emergency affecting historic properties and of the stabilization measures that have been implemented.
- Once the building has been stabilized, the CRM will initiate permanent repairs to be carried out in accordance with the *Secretary of the Interior's Standards for Treatment of Historic Properties*.
- The CRM will coordinate necessary review of the proposed permanent repairs with SHPO, following the Section 106 process.

STANDARD OPERATING PROCEDURE 11: ECONOMIC ANALYSIS FOR DEMOLITION OF HISTORIC BUILDINGS

The Cultural Resources Manager (CRM) will request an economic analysis of all National Register-eligible properties that are being considered for demolition and replacement in accordance with DODI 4715.3, *Environmental Conservation Program*. NHPA requires that historic properties be considered for re-use to the maximum extent feasible before disposal. The decision to re-use, replace, or demolish a facility should be based on an economic analysis that includes an evaluation of life-cycle maintenance costs, utility costs, replacement costs, and other pertinent factors (DODI 4715.3 1996). Consult Chapter II, Table 6, for a current inventory of National Register-eligible properties at Fort Belvoir.

If the economic analysis demonstrates that the revitalization cost of a historic property exceeds 70 per cent of its replacement cost, replacement construction may be used. However, the 70 per cent value may be exceeded if the building merits special attention due to its architectural or historical importance (DODI 4715.3 1996).

Procedure

- The CRM will request the services of a qualified professional to undertake an economic analysis of historic buildings and structures that are being considered for demolition and replacement.
- An assessment of new construction should evaluate life-cycle maintenance cost and replacement cost as alternatives for consideration by the decision maker. Replacement cost shall not be based on replacement in kind, but shall be based on a design that is architecturally compatible with the historic property.

Federal Agencies are required to make maximum reuse of historic buildings before disposal, new construction, or leasing (Section 470 et seq. of 16 U.S.C.). If the building to be disposed of is historic, potential reuses of the building must be considered prior to making a decision to dispose of it (DODI 4715.3 1996).

REFERENCES CITED

1. Department of the Army (DOA), *Cultural Resources Management*. Army Regulation 200-4. (Washington, Headquarters, Department of the Army, 1998).
2. Department of the Army (DOA), *Cultural Resources Management: Department of the Army Pamphlet 200-4* (Washington: Headquarters, Department of the Army, 1998).
3. Advisory Council on Historic Preservation [AChP], *Fort Belvoir Installation Design Guide* (Washington: Advisory Council on Historic Preservation, 1996).
4. Horne Engineering, Inc., *Fort Belvoir Integrated Natural Resources Management Plan* (Draft). (Fort Belvoir, VA: Environmental and Natural Resources Division, Directorate of Installation Support, 1998).
5. National Park Service, *Secretary of the Interior's Standards for Archeology and Historic Preservation*. *Federal Register* 48, No. 190 (Washington: Government Printing Office, 1983).
6. Virginia Department of Historic Resources, *Guidelines for Archaeological Investigations in Virginia* (Richmond: Virginia Department of Historic Resources, 1994).
7. National Park Service, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (Washington: Government Printing Office, 1991).
8. Department of Defense (DoD), *Resource Book: The Benefits of Cultural Resource Conservation*. (Washington: United States Navy, 1994).
9. National Park Service, 1991.
10. Virginia Department of Historic Resources, 1994.
11. Virginia Department of Historic Resources, *Historic Property Inventories at Twelve Military Installations in Virginia*. (Richmond: Virginia Department of Historic Resources and the U.S. Department of the Army Legacy Resource Management Program).
12. H. Alexander Wise (State Historic Preservation Officer, Virginia) to LCol. James H. Hayes (Director of Public Works, U.S. Army Garrison, Fort Belvoir), July 14, 1994.
13. Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. (Washington: U.S. Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Heritage Preservation Services, 1995), p. 17.
14. Ibid.

15. John O. Curtis, *Moving Historic Buildings* (Washington: U. S. Department of the Interior, Heritage Conservation and Recreation Service, 1979).
16. Douglas J. Harnsberger and Sandra Hubbard, Fort Belvoir Historic District, National Register of Historic Places Nomination. (Richmond: Harnsberger & Associates, 1996).
17. Weeks and Grimmer, 1995.
18. Ibid.
19. Ibid., pp. 19-20.
20. Hanbury, Evans, Newill, Vlatta and Company, *Historic Components Guidebook Series*, 1993.
21. Harnsberger & Associates, *Fort Belvoir Historic Building Survey* (Directorate of Public Works, Environmental & Natural Resources Division, U. S. Army Garrison Fort Belvoir, 1995).
22. Hanbury Evans 1993:I.1.
23. Ibid.
24. Harnsberger & Associates 1995.
25. Weeks and Grimmer 1995, p. 63.
26. United States Army Corps of Engineers, St. Louis District, *Collections Summary for Fort Belvoir, Virginia: U. S. Army Compliance Project Technical Report #88* (St. Louis: Mandatory Center of Expertise for Curation and Management of Archeological Collections, 1996).

CHAPTER V

ACTION PLAN

This ICRMP should be utilized as a companion document to the 1993 Master Plan and other planning documents. The plan also is designed to incorporate future proactive planning studies to complement and strengthen Fort Belvoir's existing cultural resource management program.

General Goals

To maintain and strengthen its program of Cultural Resource Management, Fort Belvoir should:

- Plan adequately for the identification and evaluation of cultural resources, in compliance with Federal legislation and Army regulations AR 200-4 and DA PAM 200-4.
- Integrate the results of ICRMP (e.g., goals, objectives, priorities, and cultural resources data) in the updated Real Property Master Plan (RPMP), which is scheduled for revision in 2003.
- Integrate the GIS archeological and historical database, including the historic district and individual National Register properties layers, with master planning maps; ensure that the GIS program is available to all branch chiefs within DIS; and review and update GIS database on regular schedule.
- Integrate provisions for cultural resources in planning documents undertaken or administered by other activities as they are revised (i.e., Housing, Engineering).
- Preserve and maintain historic buildings and structures in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and DA PAM 200-4. Preservation and rehabilitation are recommended as the most appropriate treatment options for historic resources at Fort Belvoir.

Internal Administration

Coordination between DIS and other divisions should be enhanced to integrate cultural resources information more fully into the installation overall planning process. Specific recommendations include the following:

- Distribute copies of the ICRMP to all planning activities within the DIS, the Public Affairs Office, tenant activities, and all other personnel or agencies that initiate or execute actions that could affect cultural resources.
- Obtain copies of all cultural resources identification, evaluation, and mitigation studies and archive them in a readily available central location (i.e., the Environmental and Natural Resources Division).
- Ensure that all correspondence and other data related to each cultural resources compliance project undertaken at Fort Belvoir are complete (ongoing). In addition, develop a computerized program to permit efficient tracking of future projects requiring Section 106 compliance.
- Increase environmental/cultural resources staffing, or contract out for specific services to handle increased work load.
- Consider incorporation of the position of Post Historian into the organizational framework of DIS, and provide the Post Historian with formal Section 106 compliance training.
- Amend Work Order Form to include "Historical Resources" as a separate check-off item that requires internal and external review, as needed, before work on historic buildings is undertaken.
- Develop improved methods to ensure that project planners, designers, engineers, and managers consult with the CRM early in the planning stages of a project, particularly if they suspect that the undertaking will have a potential impact on cultural resources. Adoption of other recommendations within this section can facilitate this process.
- Initiate internal review with CRM for all actions affecting the character of historic resources at Fort Belvoir. CRM will determine if action constitutes an undertaking that requires formal external consultation under Section 106 with the appropriate SHPO(s) and the ACHP in compliance with federal historic preservation laws and applicable Army regulations.
- Inform tenant organizations that occupy historic buildings; designate the CRM as liaison to tenant organizations to review all maintenance and repair activities that may affect historic resources. CRM will determine if action constitutes an undertaking that requires formal external consultation under Section 106 with the appropriate SHPO and/or ACHP.
- Develop Design Guidelines in consultation with VDHR for use in work related to historic buildings.
- Include a pre-qualification clause in all project specifications for undertakings that affect all historic properties. The clause should specify that the contractor should have a *minimum of five (5) years of*

demonstrated experience in historic preservation projects and acceptable past performance working on historic resources.

- Incorporate the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* into project specifications under "General Provisions" for work on all historic properties performed under contract.
- Implement the Standard Operating Procedures (SOP) contained in Chapter IV of this ICRMP;
- Develop additional appropriate GIS data layers, including: results of review of previous archeological survey intensity (e.g., potential risks for unrecorded sites); historic structures data (including previous survey records, photographs, forms, maintenance records, etc.); and landscape data.

Continued Identification and Evaluation of Historic Properties

General Recommendations

- Ensure that archeological projects are conducted according to the *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines, National Register Bulletin 24*, and to standards established by the Virginia Department of Historic Resources.¹
- Ensure that all identification and evaluation surveys are undertaken by personnel who meet the Professional Qualifications Standards contained in *Archeology and Historic Preservation: The Secretary of the Interior's Standards and Guidelines* (48 CFR 4).²
- Incorporate results of future investigations when ICRMP is updated. This ICRMP should be revised every five years.
- Maintain and update the inventory of identified cultural resources and their National Register status.
- Augment previously prepared interpretive material on the history and cultural resources at Fort Belvoir by developing additional site-specific public interpretation programs and documents for National Register listed or eligible resources, including the Belvoir Manor Ruins Archeological Site, the Fort Belvoir Historic District, the Thermo-Con House, the SM-1 Nuclear Reactor, and the Camp A. A. Humphreys Pump Station complex.

Archeological Investigations

- Complete the Phase I archeological survey for Area R-1 (Davison Airfield).
- Review previous archeological survey documentation to determine areas with potential for unrecorded or poorly mapped archeological sites.
- Plan and budget a reserve allocation of funds for accidental discovery and mitigation of archeological resources, when appropriate.
- Establish a program of periodic monitoring of previously identified unevaluated and National Register eligible archeological sites; prepare conditions assessment reports.
- Conduct archeological evaluation studies (Phase II) to ascertain the extent and integrity of previously identified, unevaluated, archeological resources. Evaluations of potentially eligible identified sites are required for Section 106 compliance or for sites in locations subject to adverse natural effects (e.g., shoreline erosion).
- Prepare and submit a National Register nomination for the Barnes-Owsley site.
- Establish a plan for long-term storage of archeological collections, including the artifacts recovered from archeological sites, the documentary records pertaining to the excavations, and the final report. Federal standards (36 CFR 79, *The Curation of Federally-Owned and Administered Archeological Collections*) specify that collections can either be stored in a secure fire-proof facility on the installation or transferred to an outside repository that meets federal standards.

Architectural Investigations

- Submit National Register nominations for Fort Belvoir Historic District, SM-1 Plant, Water Filtration Plant, and Thermo-Con House for Federal review and approval. These nominations have been reviewed at the state level.
- Prepare a Landscape Preservation Plan for the Fort Belvoir Historic District that:
 - (1) documents the historical development of the installation in terms of its original plan design and subsequent developments;
 - (2) identifies the character-defining features associated with the designed and natural landscape; and

- (3) establishes general recommendations for maintaining and safeguarding identified historic landscape features.
 - Develop a preservation and maintenance plan, including installation-specific guidelines, for Fort Belvoir's historic properties
 - Conduct additional archival and architectural field investigations to consider expanding the current boundaries of the Fort Belvoir Historic District to encompass additional 1920s and 1930s officers' housing. These include Buildings T451-456, T457-460, T479-81, T483-484, T487-494, and T496).
 - Undertake a comprehensive survey and evaluation of the installation's Cold War resources (1946-1989) to determine if any qualify for *exceptional significance* under Criterion Consideration G. Cold War properties identified to date include the Thermo-Con House (Building 172) and the U.S. Army Package (Nuclear) Power Reactor Multiple Property (Buildings 350, 372, 373, 375, and 376).
 - Reevaluate all buildings on the installation, including the Engineer Proving Ground, as they reach the 50-year age criterion and sufficient historical perspective has been achieved to determine their potential eligibility to the National Register.

Training for Personnel Involved in Cultural Resources Management

Periodic training for personnel involved in planning, engineering and cultural resources management will refine the skills necessary to manage Fort Belvoir's historic properties. In general training should familiarize base personnel with historic preservation legislation, procedures, and general requirements for compliance. The training also should include familiarizing personnel in appropriate treatment strategies for archeological sites and historic buildings, and in building preservation techniques. Specifically, Fort Belvoir's training program should:

- Ensure that the CRM has appropriate knowledge, skills, and professional training to carry out responsibilities established in AR 200-4. The CRM should receive continuing training in the latest developments in resource documentation and evaluation, conservation, and planning. Training courses are conducted by the Department of Defense (DoD), the Advisory Council on Historic Preservation (AChP), the National Park Service (NPS), and other agencies (Table 9). For additional information, refer to the National Park Service annual training directory published in *CRM* (Cultural Resource Management), available by contacting *CRM* (2250) U.S. Department of the Interior, National Park Service, Cultural Resources, 1849 C Street, N.W., Washington, D.C. 20240.
- Provide training opportunities for Division and Branch chiefs to broaden awareness of cultural resource management responsibilities as established by Federal legislation and AR 200-4.

- Provide training to maintenance and other private contractors in applying appropriate preservation and maintenance techniques for Fort Belvoir's historic structures.
- Enroll personnel that maintain historic resources in introductory courses in Historic Preservation Law (see Table 9).

Rehabilitation and Maintenance of Fort Belvoir's Historic Properties

Preservation and rehabilitation are recommended as the most appropriate treatment options for historic resources at Fort Belvoir. Fort Belvoir should develop a preservation and maintenance plan for Fort Belvoir's historic properties, including buildings, structures, and associated landscape features. The plan should promote the retention of important character-defining features and historic materials within the context of the installation's mission. The objectives of the preservation and maintenance plan should include: (1) identification of interior and exterior character-defining features and building modifications; (2) assessment of the overall condition of each building; and (3) development of building-specific recommendations for repair and maintenance.

Thereafter, Fort Belvoir should:

- Maintain historic buildings and structures to prevent their deterioration and to preserve their historic integrity. Guidelines for preserving and maintaining historic properties should follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties*⁴ and DA PAM 200-4.
- Take into consideration feasible alternatives when undertakings may affect historic properties.
- Inform tenants housed in historic buildings of their historical significance and explain the need for special management requirements.
- Pre-qualify contractors seeking to undertake work on historic properties at Fort Belvoir based on demonstrated experience in the successful application of the Secretary of the Interior's *Standards*.
- Implement a preventive maintenance program for Fort Belvoir's historic properties that is based on routine building inspections. Conduct annual inspections to identify and correct minor conditions that, if left untreated, may lead to more serious deterioration. A sample annual inspection form is included in Figure 13 (Chapter IV).
- Provide training opportunities for maintenance personnel in identifying common problems that affect Fort Belvoir's historic resources and in applying appropriate preservation and maintenance techniques. Slides are useful in illustrating problems, methods used for detecting the problems, and techniques used in historic building repairs. Slides also can be effective in portraying examples of good and poor repair jobs. Training opportunities specific to historic buildings are offered through

the U.S. Army Corps of Engineers and a variety of other organizations. Available building conservation training courses are listed in Table 9.

- Incorporate the Secretary of the Interior's *Standards* under "General Provisions" when developing project specifications for undertakings affecting historic properties.
- Conduct a conditions survey of Fort Belvoir's historic buildings and structures every five years, in conjunction with updating the ICRMP.

Negotiation of a Programmatic Agreement (PA)

A Programmatic Agreement (PA), which is negotiated among the installation, the State Historic Preservation Office and the Advisory Council for Historic Preservation, seeks to reduce the need for Section 106 compliance projects by specifying types of undertakings (usually repetitive or redundant) that need not be reviewed for each separate undertaking of a type covered by the PA. A draft PA has been submitted with this document.

- If this ICRMP is to be used to negotiate the PA, portions of the ICRMP are subject to NHPA review by the SHPO under Section 106. After all consulting parties agree, the document can be adopted through the mechanisms of a PA. The ICRMP may then be used instead of standard review under the regulations.
- Following review of the Fort Belvoir ICRMP, a PA should be negotiated among Fort Belvoir, VDHR, and the ACHP to address routine maintenance and minor repair activities at the facility.
- The PA should specify types of actions that would be categorized as having "no adverse effect" upon historic properties, should those projects be undertaken within negotiated parameters. These categorical exclusions must be agreed upon with VDHR and ACHP as activities considered to have no adverse effect on cultural resources.

Periodic Review of the ICRMP

Conditions at Fort Belvoir and other installations change rapidly. The present ICRMP has presented conditions with regard to the installation's cultural resources as of 2000; however, changes in the mission, function, and/or administration of this installation may create conditions that require modifications in the terms of this document. Thus, it is recommended that Fort Belvoir:

- assess the yearly performance of the Cultural Resource Management Program in meeting CRM goals, and revise ICRMP goals, policies, and procedures as needed.

- Maintain a copy of the ICRMP for Army community and local community review. Provide copies to the Public Affairs, SHPO, and local government office.
- Maintain up-to-date organizational and procedural flow charts.
- Maintain up-to-date base maps with current archeological and architectural data.
- Conduct building conditions assessments as needed.

REFERENCES CITED

1. Virginia Department of Historic Resources, *Guidelines for Archaeological Investigations in Virginia* (Richmond, Virginia, 1996).
2. National Park Service, *Secretary of the Interior's Standards for Archeology and Historic Preservation*. *Federal Register* 48, No. 190 (Washington: Government Printing Office, 1983).
3. United States Department of the Interior, National Park Service, *The Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Washington: Heritage Preservation Services, 1995).

APPENDIX I

ANNOTATED LIST OF PRESERVATION LEGISLATION, REGULATIONS, STANDARDS AND GUIDELINES

APPENDIX I

ANNOTATED LIST OF PRESERVATION LEGISLATION, REGULATIONS, STANDARDS AND GUIDELINES

FEDERAL AGENCIES HAVE A ROLE AS STEWARDS TO HISTORIC PROPERTIES, WHICH ARE DEFINED AS THOSE RESOURCES LISTED ON, OR ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES. THIS RESPONSIBILITY WAS RECOGNIZED IN A SERIES OF PRESERVATION LEGISLATION, REGULATIONS, STANDARDS AND GUIDELINES. THIS APPENDIX CONTAINS THE COMPLETE TEXT OF THE REGULATIONS FOR SECTION 106 (AHP: REVISED 1999) OF THE NHPA; DA PAM 200-4; AND ARMY REGULATION 200-4. CURRENT (JANUARY, 2000) WEB SITE LISTINGS FOR THESE AND OTHER APPLICABLE LAWS AND REGULATIONS ARE LISTED BELOW:

ARMY REGULATION 200-4 AND DA PAM 200-4

Acc-www.apgea.army.mil/prod/usace/eg/conserv/ar200_4.htm

National Historic Preservation Act (NHPA) of 1966, as amended.

www.achp.gov/act.html

www.denix.osd.mil/denix/Public/ES-Programs/Conservation/Laws/nhpa.htm1

National Environmental Policy Act of 1969 (NEPA)

Aec.army.mil

Ceq.eh.doe.gov/nepa/regs/nepa/nepaqia.htm

Executive Order No. 11593 (Protection and Enhancement of the Cultural Environment);

www.archnet.uconn.edu/topical/crm/usdocs/execord.htm

www.preservenet.Cornell.edu/law/plawleg.htm

Antiquities Act of 1906.

www.preservenet.cornell.edu/law/legis001.htm

www.preservenet.Cornell.edu/law/plawleg.htm

Archeological Resources Protection Act (ARPA) of 1979

www.law.cornell.edu/uscode/16/470html

www2.cr.nps.gov/laws/archprotect.htm

Archeological and Historic Preservation Act (AHPA) of 1974
www.law.cornell.edu/uscode/16/469html
www2.cr.nps.gov/laws/archpreserv.htm

Native American Graves Protection and Repatriation Act (NAGPRA) of 1990.
www.cr.nps.gov/aad/nagpra.htm
www4.law.cornell.edu/uscode/25/3001.text.html

American Indian Religious Freedom Act (AIRFA) of 1978
www4.law.cornell.edu/uscode/42/1996.html

36 CFR 79 Curation of Federally-Owned and Administered Archeological Collection
www.cr.nps.gov/aad/36cfr79.htm

36 CFR 60 National Register of Historic Places.
Archnet.uconn.edu/topical/crm/usdocs/36cfr60.html

Thematic Study and Guidelines: *Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties.*
AEC-WWW.APGEA.ARMY.MIL/PROD/USACE/EO/CONSERV/ACWCR-TS.HTM

Advisory Council Regulations 36 CFR Part 800: Protection of Historic Properties
www.achp.gov/36cfr1.html

Department of the Interior regulations 43 CFR Part 7: Protection of Archeological Resources
www.cr.nps.gov/local-law/43cfr.htm

Department of Defense Regulations 36 CFR Part 229: Protection of Archeological Resources-Uniform Regulations.
Aec-www.apgea.army.mil:8080/prod/usace/eg/conserv/crmp-05.htm

Department of the Interior, *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines.*
www.cr.nps.gov/nr/nrpubs.html
www.nps.gov/legi-bin/ur/srch.cgi

National Register Bulletin No. 24: *Guidelines for Local Surveys: A Basis for Preservation Planning*, U.S. Department of the Interior, National Park Service, 1991
www.cr.nps.gov/nr/nrpubs.html
www.nps.gov/cgi-bin/ur/srch.cgi

National Register Bulletin No. 15: *How to Apply the National Register Criteria for Evaluation*, U.S. Department of the Interior, National Park Service 1991
www.cr.nps.gov/nr/nrpubs.html
www.nps.gov/cgi-bin/ur/srch.cgi

National Register Bulletin No. 16A: *How to Complete the National Register Nomination Form*, National Park Service 1991
www.cr.nps.gov/nr/nrpubs.html
www.nps.gov/cgi-bin/ur/srch.cgi

National Register Bulletin No. 16B: *How to Complete the National Register Multiple Property Documentation Form*, National Park Service 1991

www.cr.nps.gov/nr/nrpubs.html

www.nps.gov/cgi-bin/ur/srch.cgi

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, National Park Service 1995

www.cr.nps.gov/nr/nrpubs.html

www2.cr.nps.gov/tps/standards/index/htm

www.nps.gov/cgi-bin/ur/srch.cgi

National Park Service, Preservation Brief Series.

www.nps.gov/cgi-bin/urlsrch.cgi

National Park Service, Technical Brief Series

www.nps.gov/cgi-bin/urlsrch.cgi

Guidelines for Documenting and Evaluating Historic Military Landscapes: An Integrated Landscape Approach. AEC Technical Guideline, USACERL.

<http://aec-www.apgea.army.mil:8080/prod/files/milland.doc>

National Historic Context for Department of Defense Installations, 1790-1940 (Volumes I-IV) (**requires Word 97; not readable in Word 6.0/95**)

<http://aec-www.apgea.army.mil:8080/prod/files/files.htm>

Discussion of basic compliance requirements associated with these major federal cultural resources laws are found in Army Regulation 200-4 or on the Defense Environmental Network and Information Exchange (DENIX).

APPENDIX II

REGIONAL CULTURAL CONTEXTS

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Prehistoric Context

Both the Virginia Department of Historic Resources (1990) and Fairfax County archeologist Michael Johnson (1991:10) have developed cultural sequences for Virginia prehistory. These cultural sequences differ slightly in orientation and chronology. Johnson's is based upon radiocarbon dates for Virginia assembled in 1985 by Frederic Gleach, and on ceramic dates obtained from Egloff and Potter (1982); moreover, it reflects a specific Fairfax County orientation, and utilizes subsistence patterns as its primary organizational framework. The Virginia state cultural sequence was designed to provide broad guidelines for the entire state, and the date ranges reflect this statewide orientation. The prehistoric sequence utilized in this report will follow that outlined for the State of Virginia, but it also will reference Johnson's Fairfax County sequence.

Regional Cultural Chronology

Paleo-Indian (ca. 10,000 - 8,000 B.C.). This study unit, called "Paleo-Indian I" (? - 7,410 B.C.) by Johnson (1991), is defined by the occurrence of fluted projectile points, including the Clovis, Mid-Paleo, Dalton, and Hardaway types (Johnson 1986). Climatic episodes defined by Carbone (1976) for the Shenandoah have been suggested as broadly applicable to Fairfax County (Johnson 1986). Johnson suggested that environmental conditions in Fairfax County during the Late Glacial era might have resembled those of the lower elevations in the Shenandoah Valley, with a somewhat milder climate towards the Coastal Plain.

The episode pertinent to the Paleo-Indian study unit is the Late Glacial (ca. 15,000 - 8,500 B.C.)(Custer 1984; Johnson 1986). The Late Glacial represented the terminal Pleistocene and the "last effects of the glaciers upon climate in the Middle Atlantic area" (Custer 1984:44). Pollen records suggest tundra conditions existed as far south as central Pennsylvania at about 9,300 B.C. (Kavanagh 1982:8); further south, pollen and faunal data indicate a "mosaic" pattern of vegetation (Custer 1984:44). Carbone described the Late Glacial vegetation in the Shenandoah Valley as composed of microhabitats, including mixed deciduous gallery forests near the river, mixed coniferous-deciduous forest and grasslands in the foothills and valley floor, coniferous forest on the high ridges, and alpine tundra in the mountains

(Kavanagh 1982:8). It is possible that the faunal assemblage included Pleistocene megafauna, although the extent of human reliance on these animals is debated (Custer 1984; Gardner 1980; Kavanagh 1982).

The lower sea levels of the terminal Pleistocene have important implications for interpreting site distributions along the Potomac River in Fairfax County. In 10,000 B.C., the Atlantic shore was approximately 47 miles east of its current location. Today's Chesapeake Bay "was a broad river valley whose streams, draining large areas of land--much now submerged--carried substantial amounts of water" (Parker 1986:16). The Potomac was probably a broad, braided stream, unstable in its course. The current Coastal Plain was part of the interior at that time (Parker 1986:16). Post-Pleistocene warming trends, and the accompanying sea level rise, may have inundated many Paleo-Indian sites, thus skewing the data on site distribution.

Gardner (1979, 1983) identified six site types in the Shenandoah Valley Paleo-Indian settlement system. These may be more broadly applicable in the Middle Atlantic (Custer 1984). They include: (1) quarry sites; (2) quarry reduction stations; (3) quarry related base camps; (4) base camp maintenance stations; (5) outlying hunting stations; (6) isolated point finds. High quality lithics were the focal point for the settlement system, and hunting and foraging comprised the main subsistence base (Custer 1984; Gardner 1979; Stewart 1980; Johnson, 1991).

The Paleo-Indian study unit is represented in Fairfax County by only seven sites, and no projectile points from this period have been found within the Dogue Creek drainage (Chittenden et al. 1988:III-P1-10). A single chert, fluted point was recovered from the Enoch Site (44FX35), which lies on the first terrace of Accotink Creek in the vicinity of Davidson Airfield (LeeDecker et al. 1984; Johnson 1988). This poor representation may be due partially to inundation of sites due to the post-glacial rise in sea levels. The relative scarcity of high quality cryptocrystalline lithic material in the area also must be considered. While jaspers and cherts are available in the county's Piedmont and Coastal Plain sections in cobble form (Johnson 1986:18, 20), the nearest primary jasper outcrops are located along the upper Potomac near Point of Rocks, Maryland. The lower reaches of the river may have been used only for periodic hunting forays by groups exploiting the upriver jasper (Gardner et al. 1979). However, the recent discovery of a single fluted quartz point in the Tyson's Corner area of the county has prompted a reassessment of previously-held hypotheses concerning Paleo-Indian dependence on high-quality lithic resources.

Early Archaic (8,000 - 6,500 B.C.). Johnson (1991) has called this cultural period "Paleo-Indian II" (7,540 - 6,010 B.C.) and has identified the following projectile points as diagnostic: (1) Palmer/Kirk (corner notched points); (2) Kirk (side notched/stemmed); and (3) bifurcate (notched stem). Again, the Dogue Creek drainage and its associated tidal creek estuary have yielded no points representing Early Archaic period occupation, although at least five have been recovered from the adjacent Accotink drainage (Chittenden et al. 1988:Figures P2-7 and P2-8).

While Gardner (1979, 1980) has emphasized that the Early Archaic period represents a general continuation of Paleo-Indian hunting strategies, Johnson (1991) recently has suggested that the Archaic period subsistence strategies actually were based upon foraging. Archeologically, the major changes noted during this "Early Archaic" phase in Fairfax County have been suggested by: (1) a more stable and restricted site distribution, implying a more sedentary lifestyle; (2) changes in projectile point morphology; and (3) a shift from the nearly exclusive Paleo-Indian focus on high quality cryptocrystalline lithics to the use of a broader range of locally available material (Johnson 1986:P2-1).

The environmental setting of the Early Archaic period was conditioned by the Pleistocene/Holocene transition; the major climatic episode was the Pre-Boreal/Boreal era (8,500 - 6,700 B.C.)(Custer 1984; Johnson 1986; Kavanagh 1982). Climatic change involved warmer summer temperatures with continued wet winters. Parker (1986:16) noted that, by about 6,400 B.C., the Atlantic Coast still was about 34 miles east of its current position and that the Potomac still was an unstable, braided stream. Vegetation shifted accordingly, and, for Fairfax County, Johnson (1986:2-1, 4) has suggested that the "mosaic pattern that was present during Late Glacial times continued, but with more southern hardwood plant species becoming prevalent." This more diverse floral and faunal population has been interpreted as capable of supporting a resource strategy focused on a broader range of small game species and plant foods (Johnson 1991:10).

The subsistence pattern during the Early Archaic has been characterized as approximating that of the preceding Paleo-Indian period, with a general hunting focus (Parker 1986:20). Johnson suggested a more stable and restricted population for Fairfax County during this time. It generally is thought that population was "concentrated near the shore and along the lower river courses," with hunting forays into the uplands (Parker 1986:20).

Middle Archaic (6,500 - 3,500 B.C.). Johnson (1991) also has termed this period "Hunter-Gatherer I" (5,860 - 3,100 B.C.), and he has identified the following projectile points as diagnostic of Middle Archaic occupation: Stanly, lobate, Morrow Mountain/Stark (contracting stem), Halifax, and Guilford (lanceolate)(Johnson 1986, 1991). Few points representing these temporal markers have been recovered from the Dogue Creek watershed and its associated tidal creek estuary. Points from the early stages of this period, formally "Hunter-Gather II", such as Stanly, Morrow Mountain and Guilford also are absent (Johnson 1988). Nine points from the later Big Sandy and Halifax/Brewerton traditions have been reported from sites in the lower Accotink stream valley (Chittenden et al. 1988:Figures P3-7, P3-8, P4-3). Of these types, the Halifax is the most abundant; the occurrence of five Halifax specimens mirrors a general increase in prehistoric activity and/or population that has been observed throughout Fairfax County.

6,500 B.C. marked the emergence of the full Holocene environment and corresponded to the beginning of the Atlantic climatic episode. This episode involved a warmer and more humid period that continued to about 5,000 B.C. (Custer 1984:62-63). The Atlantic shore was approximately 34 miles east of its current location at the start of the period; by its close, this distance had shrunk to between 9 and 13 miles. Parker (1986:23) indicated that "the Potomac had begun downcutting in its present channel by about 5,500 B.C., and fluvial swamps may have developed in wide floodplain areas." It is thought that essentially modern forest conditions were achieved by 6,000 B.C. (Johnson 1986:3-1). Local conditions have been characterized as including mixed southern pine-oak forest in the uplands and an oak-hickory forest in the valley floors (Parker 1986:23). Adaptive strategies continued to focus on foraging, with varying emphases on hunting and collecting that may have co-varied with climatic change.

Johnson (1986:3-7) has observed a sharp drop in projectile point frequencies in Fairfax County during this period. However, he also has noted that there is a survey bias in the county toward upland-interior areas and he suggests that the low site numbers may reflect this bias (Johnson 1986:3-11). Parker (1986:24) maintains that there was "an absolute decline in the use of the uplands, with populations instead perhaps dispersing and concentrating seasonally along the shores and the lower river courses". Data from the Shenandoah Valley seem to indicate a riverine/swamp orientation for sites; there, base camps are associated with low order stream/Shenandoah River junctions (Gardner 1978:14).

Late Archaic (3,000 - 1,000 B.C.). During this time frame, the climate began to change. A warm, dry period "culminated in the xerothermic or 'climatic optimum' around 2,350 B.C., when it was drier and

20 degrees warmer than modern conditions (Kavanagh 1982:9). Vegetation patterns included the reappearance of open grasslands and an expansion of oak-hickory forests in the valley floor and hillsides. By 3,000 B.C., the Atlantic coastline was only about four miles east of its current location. The Chesapeake Bay was filling; there probably were extensive marshlands in the area of the present mouth of the Potomac. Parker (1986:26) has suggested that larger population concentrations, if present, would have exploited these lower Potomac marshes extensively.

Johnson (1986) formerly classified this period as separate and distinct, and labeled it as "Hunter-Gatherer III." However, in his revised prehistoric chronology for Fairfax County (1991), he has combined most of the traditional Late Archaic period, together with the subsequent Early and Middle Woodland periods, into a transitional category similar to Custer's (1991) "Woodland I" (cf. Mouer 1991). He labels the period "Hunter-Gatherer II," and suggests initial and terminal dates of 2,750 B.C. - A.D. 800 for its span in Fairfax County.

Diagnostics marking the Late Archaic phase of this transitional period near the study area include Savannah River and Holmes projectile points (Johnson 1986). Johnson (1986:5-5) noted that sites of this period in Fairfax County "often are larger and more intense in both the uplands and along the main riverine floodplain." Steatite bowls also were added to the tool kit during the Late Archaic, and these soon were followed by the steatite-tempered ceramics that mark the beginning of the Woodland period. Large quantities of Savannah River-like and Holmes points have been recovered from sites along the Accotink Creek, and it is this phase that first can be identified within the upper reaches of the Dogue Creek drainage (Chittenden et al. 1988:Figures P5-19 and P5-20). The increase in numbers of points and their wider distribution suggests that the Late Archaic period represents the initial phase of intensive occupation of this ecotone, including both its tidal and freshwater zones.

Early Woodland (1,000 B.C. - A.D. 300)/Middle Woodland (300 - 1000 A.D.). While the temporal framework developed in Virginia's Cultural Resource Management Plan (1990) continues to display the traditional dichotomy between these two periods, Johnson (1986, 1991) has combined both with the traditional Late Archaic. Marked changes occur during this time, including larger base camps in both riverine and non-riverine zones, exploitation of a wider range of lithics, and possible regional interaction. Both Johnson (1986:5-1) and VDHR (1990) have noted a shift to greater sedentism during the period, and Johnson postulates a subsistence base that continued to emphasize resource collection.

In general, the Woodland period corresponds to the Atlantic climatic episode (ca. 940 B.C. - modern times). While the environment after at least 3,000 B.P. generally approximated that of the present day, some episodic climatic variations continued into the Late Holocene period, as documented by Carbone (1976, 1982) in the Shenandoah Valley. While such episodes were minor in comparison to variations earlier in the Holocene, evidence indicates that "locally significant changes did occur" (Bryson and Wendland 1967:281). Carbone (1976:200) noted three possible stress periods: (1) the Sub-Boreal/Sub-Atlantic transition (3,000 - 2,600 B.P.); (2) the Sub-Atlantic/Scandic transition (1,750 - 1,350 B.P.); and (3) the Neo-Atlantic/Pacific transition (ca. 870 B.P.).

These short-term climatic perturbations apparently produced stresses in the local environment, particularly at points of transition between episodes (Carbone 1976; Custer 1980). Wendland and Bryson proposed that cultural discontinuities could be linked to climatic discontinuities, and that cultural changes thus provided "a 'proxy' indicator of the covariate, climate" (Wendland and Bryson 1974:10). On the regional level, correspondences between climatic/environmental patterns and cultural sequences during the

Woodland have been noted for the Middle Atlantic as a whole (Carbone 1982), and for the Shenandoah Valley (Fehr 1983).

Gardner (1982:58-60) has proposed two settlement pattern models for the Late Archaic to Early Woodland on the Inner Coastal Plain. The "fusion-fission" model suggests that population units fused seasonally into macro-social groups along both fresh water and salt water estuaries to exploit fish runs, and that populations dispersed seasonally to form micro-social unit camps involved in exploiting other resources. The "seasonal shift" model suggests that the same population formed both macro-social unit and micro-social unit camps in fresh water and salt water zones; these large and small social units then moved laterally between zones on a seasonal basis (Gardner 1982:59). Johnson (1986:5-14) feels that both models might be applicable to the Fairfax County area.

The traditional Early Woodland subperiod can be dated from about 1,000 - 500 B.C. (Gardner 1982), although more recent chronologies (VDHR 1990) designate the end of the Early Woodland at ca. 300 A.D. Characteristic ceramics of the period include steatite-tempered Marcey Creek and Seldon Island wares and sand tempered Accokeek wares. None of these ceramic types have been found within the Dogue Creek drainage near the study area (Chittenden et al. 1988:Figures P23, 25).

Diagnostics of the Middle Woodland (ca. A.D. 300 - 1000) in the Coastal Plain of the Potomac include Popes Creek Net-Impressed and Mockley ceramics; other Middle Woodland sites are identified by projectile points including Fox Creek and Selby Bay types. Johnson (1986:5-21) reported that Piscataway-like points have been found in association with both Accokeek and Popes-Creek-like ceramics. However, the Middle Woodland period generally is understood poorly in the study area; only two ceramic-producing sites of this sub-period had been reported for all of Fairfax County prior to 1988 (Chittenden et al. 1988:Table 5-2). Johnson (1988) since identified Popes Creek ceramics from Site 44FX1342 on Dogue Creek. Large numbers of Piscataway points were obtained from one site on the northern shore of the Accotink Creek estuary; however, the association between such points and ceramic-producing sites, and hence their settlement system implications, are unclear (Johnson 1986:5-26 -5-30).

Late Woodland (A.D. 1000 - 1600). Johnson's (1986, 1991:10) chronology re-converges with that of VDHR at this period, although his dates of 800-1607 A.D. vary somewhat. Johnson uses the terms "Early Agriculturalist" to describe the subsistence base of the Late Woodland period.

In the Coastal Plain areas of the county, settlement and subsistence were distinguished by the following general characteristics:

...the intensive planting and cultivating of domestic plants (corn (maize), beans, squash, tobacco, etc.); a shift in riverine settlements from fishing and shellfishing locales to areas with prime agricultural soils (Gardner 1983:personal communication); the advent of semi-permanent villages; the apparent rise in inter-tribal conflict; the appearance of the bow and arrow, seemingly manifested in the triangular point type; and possibly the first appearance of complex political systems such as tribal confederacies and chiefdoms (Johnson 1986:6-1).

The locations of larger villages and hamlets appears to have been related to the availability of soils suitable for agricultural production. Small shell-fishing camps also persisted in tidewater regions, with, what Johnson terms "exploitative foray camps", located in the interior (Chittenden et al. 1988:III-P6-4).

On the Coastal Plain, Townsend series (shell-tempered) ceramics dominated after A.D. 900 (Clark 1980:18). The crushed-rock tempered Potomac Creek ware appeared somewhat later and was prevalent in the Inner Coastal Plain/Fall Line sections of Northern Virginia (Egloff and Potter 1982:112). This latter ceramic type is thought to be related to the historically known Piscataway Indians (Clark 1980:8). Both ceramic types have been identified in Fairfax County, although Potomac Creek ware predominates (Chittenden et al. 1988:Table P6-3). Representative projectile points from this period are the small triangular forms. Sites that have produced these diagnostic artifacts tend to cluster along the Potomac shoreline and the lower reaches of major tributaries of the Potomac River, although once again, survey bias may have skewed this distribution.

Prehistoric Occupation at Fort Belvoir

A common theory suggests that, throughout the Middle Atlantic, the focus during the Middle and Early Late Archaic Periods was on resource collecting in uplands areas (Mouer 1991). However, others have suggested that this apparent "focus" is in fact a survey bias because rising sea levels have drowned many riverine Archaic sites. For example, Smith (1986) observed a Middle Archaic settlement pattern in the Southeast consisting of transitional camps in the upland areas and base camps in the floodplains of major rivers. Mouer argues that, in the Piedmont where sea levels rises have had less effect, the pattern of primarily upland exploitation of Archaic peoples is evident. The Middle Archaic settlement pattern was followed by an increase in the exploitation of estuarine environments beginning in the Late Archaic Period and continuing through the Woodland Period (Klein and Klatka 1991). Johnson (1986:5-1) noted a shift to greater sedentism during the period, and postulated a subsistence base that continued to emphasize resource collection. An economy based on resource collection may have continued well into the Late Woodland, with agriculture arriving relatively late along the lower terraces of the Belvoir Peninsula and adjacent shorelines.

The proximity of the Potomac River to Fort Belvoir may have spurred the development of the lower terraces along Dogue, Accotink, and Pohick Creeks. Whether through migration (MacCord 1984; Gardner 1986; Custer 1987) or interregional trade and interaction (Klein 1994), the Potomac served as a major transportation and communication link between the Piedmont, the northern Coastal Plain, and the southern Coastal Plain during the Woodland Period and perhaps earlier.

The Belvoir peninsula may have been particularly attractive prehistorically because of its close proximity to three physiographic areas and their divergent resources: the Piedmont, the upper Coastal Plain, and the lower tidal wetlands. The area between the tidal zone and the Fall Line was the richest area in the coastal plain prehistorically; here productive, easily tilled soils combined with enormous biodiversity (Klein 1994). Gravel and cobbles formed the dominant component of many of the soils, resulting in a rich array of raw materials for tool production.

Prior to the Late Archaic, the lower terraces of Fort Belvoir were the upland portions of wide floodplains. However, it appears there was substantial activity in these areas during this time. Based on the limited data from Fort Belvoir, the model of riverine base camps and short-term exploitation of the upland areas may more reflect the settlement patterns than the model that suggests a focus on upland settings. It is possible that further excavations along the lower terraces may show that these areas were the focus of early human habitation, rather than the upland, interior areas.

The lower terraces of Fort Belvoir exhibit a nearly continuous occupation from the head of Dogue Creek Bay to Pohick Creek. Woodland Period sites are more common (34.6 per cent) followed by Late Archaic sites (16.0 per cent) and Middle Archaic sites (8.0 per cent). Paleo-Indian and Early Archaic sites are the least common (3.9 per cent). Most of the sites with temporally diagnostic artifacts are multi-component rather than single component (22 per cent vs. 17.3 per cent). Some sites (4 per cent) have produced artifacts from the entire prehistory of the Middle Atlantic.

The most common site type identified at Fort Belvoir is the lithic artifact scatter from which no diagnostic tools or ceramics have been recovered. Most of the lithic artifact scatters were identified on upland terraces and bluffs overlooking the three major creeks and the Potomac River or at the heads of the minor drainages. Although fewer lithic artifact scatters were identified on the lower terraces, they tended to be larger in size with more dense artifact concentrations. Even though the lithic artifact scatters were aceramic, it would be a mistake to ascribe them arbitrarily to the Archaic Period. They may represent exclusive Archaic Period exploitation or they may mark limited Woodland Period forays into upland areas. The dense scatters on the lower terraces may represent Late Archaic-Woodland Period sites or areas that were occupied throughout prehistory. Perhaps because of the survey methodology, they have not been characterized sufficiently or they may never produce diagnostic artifacts. However, as understanding of the reduction strategies employed in the Middle Atlantic is refined, these non-diagnostic lithic assemblages may in time exhibit temporally distinct traits.

Although their documentation is rare at Fort Belvoir, Early and Middle Archaic sites are more common on the high terraces and along upland stream beds; Late Archaic through Late Woodland sites are clustered almost exclusively along the lower terraces of the major water courses. Only scattered ceramics have been found on a small number of upland sites.

With a decrease in mobility there is an increase in site richness. The density of Woodland artifacts, and perhaps the density of most of the non-diagnostic artifacts, indicates that the lower terraces were intensively occupied at this time. During the Late Archaic through Woodland Periods, a population shift to riverine areas occurred because of their proximity to aquatic resources, which later were supplanted by horticulture. The reliance on specific resources and environments helped to create the terrace base camps that were occupied yearly and, perhaps finally, year-round.

Four excavations conducted on Mason Neck, immediately south of Fort Belvoir, have yielded assemblages that provide a parallel for those that might be expected at Fort Belvoir. Middle to Late Woodland ceramics and a ceramic effigy head were recovered from the Hartwell Site (44FX1847). The site lies on Massey Creek approximately 9 km from Dogue Creek. It has been suggested that this is the possible site of Tauxenent, a Dogue Indian village described by John Smith (Johnson 1994: personal communication). Historically, the Dogue Indians have been linked to Mason Neck area. Excavations at the Taft Site (44FX544) have revealed a large number of features (Johnson 1988; Baird and Norton 1994). Included in the assemblages were Popes Creek, Mockley, and Potomac Creek ceramics and a number of diagnostic point types. A suite of subsistence data was collected from the features and areas of intact stratigraphy. Potomac Creek ceramics were recovered from the Little Marsh Creek Site (44FX1471). The ceramics were recovered from intact features dating from approximately 430 - 640 B.P. (Klein 1994:94). Moore (1993) suggests that the site may represent a short-term encampment because of the limited array of tools and the lack of long term features, such as post-holes and middens. Late Archaic through Late Woodland artifacts have been recovered from the Belmont Bay Site (44FX2058). Test excavations at this site included the surrounding tidal mud flats. Potentially intact stratigraphy was encountered as far as 600 ft from the current shore (Cherryman 1995: personal communication).

Historic Context

Although the VDHR (1990) has developed both temporal and thematic frameworks for Virginia's historical development, the state's contexts were meant to provide overall guidance for development of more localized sequences. Therefore, the background summary for the present study has been modeled primarily upon the *Fairfax County Heritage Resources Management Plan* (Chittenden et al. 1988). This document describes the specific history of Fairfax County through chronologically and thematically organized study units. Those study units have been utilized here to provide an historical context for the study area, as well as a general overview of Fairfax County's history; however, certain units have been modified to conform to specific areal considerations. For example, the Civil War has not been considered as a separate study unit in this report, since the impact of the conflict on the project area was relatively minimal. However, the thematic units on African-American and Quaker history have been treated as separate entities, because these groups had a direct impact upon the pre-military history of Fort Belvoir.

Exploration and Frontier/Early Colonial Settlement (1550 - 1650)

During the first half of the seventeenth century, a tobacco-based plantation system emerged in lower Tidewater Virginia (Morgan 1975). Along the Potomac and in the upper Chesapeake region, a beaver trade flourished during the 1620s and 1630s. This trade brought whites into the area with increasing regularity (Fausz 1984), but none settled the region permanently until the second half of the seventeenth century. Until that time, the Doeg Indians controlled the middle Potomac shoreline (Moore 1991); John Smith's map of the upper Potomac (1608) located the chief Doeg town of Tauxenent on the Occoquan River south of Fort Belvoir (Chittenden et al. 1988:III-H1-2).

Early Colonial Settlement (1650 - 1720)

Tidewater tobacco planters quickly discovered that tobacco monoculture depleted the soil. As landholders sought new fields for the crop, and as indentured servants completed their terms of service and sought to acquire their own properties, Virginia's frontier pushed steadily northward (Parker 1986). The first land patents for tidewater Fairfax County were issued in 1651, but most of these grants probably were not "seated." Many later were repatented (Mitchell 1977:3), particularly after Charles II assigned the rights to the entire region between the Rappahannock and Potomac Rivers to several of his supporters in England. Thomas Lord Culpeper eventually bought out most of the other grantees, and in 1675 he assumed sole control of the Northern Neck proprietary (Writers Program 1941:17).

Settlement in the area proceeded slowly until the end of the seventeenth century (Mitchell 1977:4). Augustin Herrman's 1673 *Map of Maryland and Virginia* (in Stephenson 1981:Plate 4) indicates that early plantation sites in southeastern Fairfax County clustered along the Potomac River shoreline. Because so few landowners actually lived on their properties, it is likely that these remote grants were occupied by tenant farmers, indentured servants, slaves, and/or overseers. African slaves increasingly were imported to work the Northern Virginia's tobacco fields (Chittenden et al. 1988:III-H2-2).

As the area's population slowly increased, transportation routes were established across the Occoquan River from Woodbridge to Colchester, in Fairfax County, and a ferry was in operation there by the 1680s (Chittenden et al. 1988:III-H2-4). A former north-south Indian trail, the so-called "Potomac Path" was improved and extended into the county's frontier settlements. Also known as the "road to Colchester," the Potomac Path corresponded roughly to present-day Telegraph Road, which forms the northwestern boundary of the North Post and the Humphreys Engineer Center. Other unimproved trails were widened into "rolling" roads over which hogsheads of tobacco were conveyed to wharves and warehouses on the Potomac River (Harrison 1987:466).

Tobacco Plantation Society (1720 - 1800)

The plantation society that had developed in southern Virginia spread to tidewater Fairfax during the early eighteenth century. Immense estates, including George Mason's Gunston Hall, George Washington's Mount Vernon, and William Fairfax's Belvoir, were established. These affluent landowners came to represent the political, economic, and social upper class of Fairfax County. The proprietor of the Northern Neck, Thomas Sixth Lord Fairfax, also resided at Belvoir between 1745 and 1761 (LeeDecker 1984:38).

By the mid-eighteenth century, many planters in the region had begun to realize that continued dependence upon tobacco production ultimately would spell disaster. As a result, most progressive planters like George Washington began to diversify their plantation output. By the end of the eighteenth century, this diversified approach to agriculture had all but completely replaced tobacco production in Fairfax County (Chittenden et al. 1988:III-H5-1).

Early Diversified Agriculture (1750 - 1840)

In 1742, Fairfax County was created from the northern part of Prince William County. The county's internal transportation network provided access to the churches, the county courthouse, and communities of the interior portion of the county, and connected plantations with ports at Colchester and Alexandria (Chittenden et al. 1988:III-H5-2).

The American Revolution did not affect Fairfax County directly in a military sense in that no battles were fought there. Nonetheless, county residents felt its indirect effects. Fairfax's political and social upper class played prominent roles in the events that led to the American Revolution, and supported the war effort politically, militarily, and financially. The ideology of the American independence movement also encouraged many Virginia slaveholders to free their slaves during this period, either through immediate manumission, or in their wills. As a result, a free black population slowly developed in Fairfax County during the first half of the nineteenth century.

After the Revolution, the economy of Fairfax stagnated, and a sizeable portion of its population migrated west. Many planters sold their estates to satisfy their debts, while other properties were partitioned as a result of inheritance. As the nineteenth century progressed, smaller farm units came to characterize the county's economy, and the need for planters to maintain large numbers of slaves diminished. Virginia law permitted manumitted slaves to remain within the state as long as their free status was proved satisfactorily to the county court, usually by affirmation or witness by a white county resident (Sweig 1977:*passim*).

At mid-century, Fairfax County's agricultural economy slowly rebounded as the adoption of "scientific" farming methods increased productivity (Lee 1982:46). An influx of Northern farmers and entrepreneurs, such as the Gillingham family who purchased Woodlawn in the 1840s, increased the county's population. The steady growth of the District of Columbia created an expanding market for commodities produced on outlying farms (Chittenden et al. 1988:III-H5-1), and the number of grist mills and other agriculturally related industries increased. Transportation systems improved; steamboat service along Potomac River provided a faster mode of transportation for residents of the eastern part of the county (Harrison 1987:452), and interior road systems were upgraded and expanded. By the time of the Civil War, a road following the approximate route of present-day Beulah Street (Va Rte 613), linking the village of Accotink with Telegraph Road, had been established.

Agrarian Fairfax (1840 - 1940)

Fairfax County remained predominantly rural and agrarian for the next century. Along the Potomac River, farming was supplemented by the development of a fishing industry (LeeDecker 1984:44). During the 1850s, small communities developed around railroad stations and post offices. The hamlet of Accotink, located southwest of the project area, typified these small nucleated villages; in 1879, it contained a schoolhouse, a Methodist Episcopal church, a blacksmith shop, a grist and saw mill, and two stores. The Woodlawn Baptist Church, the Friends Meeting House, and a second schoolhouse provided a community focal point for residents living north of Accotink. During this period, two unique social groups, Quakers and African-Americans, comprised an especially significant element in the Woodlawn area.

Fairfax County's location, south of the nation's capital, was strategically important during the Civil War. When Virginia seceded from the Union, Federal forces occupied parts of the county, took control of local turnpikes and railroads, and erected fortifications to guard Alexandria and the approaches to Washington. However, because southeastern Fairfax County was relatively far from such scenes of direct conflict as Bull Run, the war's effects on the Woodlawn area were comparatively minor.

Quakers in Fairfax County

The Religious Society of Friends, also known as Quakers, had been active in Virginia since the seventeenth century. In the eighteenth century, early Quaker settlements coalesced around the western edges of Alexandria and along the Fairfax-Loudoun border; Alexandria's Quaker meeting was established in 1798. During the 1840s, several Quaker families from Pennsylvania and New Jersey acquired property in the Fort Belvoir area and established the present meeting there.

Three fundamental precepts of this group set them apart from their neighbors: their interest in education; their concern for African-Americans; and their implementation of progressive farming practices (Netherton et al. 1978:258; Chittenden et al. 1988:III-H7-2). The Gillingham and Troth families, who purchased the Woodlawn Plantation for its timber resources (Troth 1971:34,37), were among the prominent leaders of the group. They helped to establish the Woodlawn Meeting at the intersection of Woodlawn Road and US Rte 1, and many members of these families are interred in the cemetery at the meeting house. The Quaker settlement at Woodlawn, dominated by an abolitionist philosophy, aided free blacks, especially during the Reconstruction period (Chase 1990:21).

After the Civil War, members of this progressive Quaker community continued to provide significant leadership in the Woodlawn area. They were instrumental in establishing local agricultural self-help groups, such as the Woodlawn Farmer's Club, and in promoting innovative approaches to farming. For example, some of their members established dairy farming as a significant economic component of Fairfax County's early twentieth century agriculture (Chittenden et al. 1988:III-H7-2). It also was partially due to the concern of the area's Quaker community that a sizeable African-American community began to coalesce in the Woodlawn area.

Free Blacks in Fairfax County

Fairfax County's free African-American population actually emerged prior to the Civil War. Freedom from slavery was gained as a result of outright manumission by owners; by being freed in owners' wills; or following the status of previously freed African-American women. Local and state statutes required that free African-Americans either register with the local courts, or that they leave the state; however, documentary evidence suggests that such laws were enforced only sporadically (Sweig 1983:3-4).

During the first half of the nineteenth century, several free African-Americans established small communities throughout the county, as well as neighborhood enclaves in larger towns such as Alexandria (Chittenden et al. 1988:III-H9-3). The community of Gum Springs, located at the head of Little Hunting Creek, developed around property owned by a former Washington slave, West Ford (Netherton et al. 1978:274; Chase 1990:12). A small group of free African-Americans also apparently settled in the Woodlawn vicinity prior to the Civil War; some of these individuals registered as free "persons of color" during the 1840s and 1850s (Sweig 1977:*passim*), while others were listed as free persons in the 1850 and 1860 population censuses.

After the Civil War, the size of this community increased, and it remained intact through the first quarter of the twentieth century. Its members established the African Methodist Episcopal Church and cemetery on Woodlawn Road, and some members of the congregation lived along an unpaved road that extended in a northwesterly direction from the Woodlawn Quaker meeting house, and then curved south to connect with the present US Rte 1. Hopkins' 1878 map depicts several African American property owners in the area between the present-day Woodlawn Road and Beulah Street.

Most of this nineteenth century road configuration and all of the dwellings shown on the Hopkins map were obliterated when Camp Humphreys was established during World War I. The establishment of Camp Humphreys also may explain why, in 1919, William Holland, an African American resident of Woodlawn, purchased a 52-ac tract of land in the Gum Springs neighborhood (Chase 1990:33).

Suburbanization and Urban Dominance (1890 - Present)

The late nineteenth and twentieth century growth of the Federal government in Washington, D.C. radically changed the character of Fairfax County. As the number of Federal employees rose throughout the period, electric trolley lines and improved road systems integrated Fairfax County into the Washington metropolitan area, and established the area as a suburban "bedroom community" of the nation's capital. A transit line linked Mount Vernon and Washington in 1892; they carried both passengers and freight, especially the dairy products produced in the Woodlawn area (Chase 1990:46,51).

However, the most profound change in the project area was occasioned by the entry of the United States into World War I. In 1910, Philip Otterback sold 1,500 ac of the former Belvoir estate to the United States government (LeeDecker 1984:46). Prior to and during the United States' involvement in World War I, the War Department purchased or condemned many contiguous properties and created the installation known as Camp A. A. Humphreys. Many of the numerous unidentified late nineteenth and early twentieth century dwellings mapped in areas north of US Rt 1 and west of Woodlawn Road were demolished after the Army's acquisition of property in the area.

During the Depression and World War II, the needs of a growing Federal work force resulted in the establishment of more complex transportation network throughout the county, and gave rise to ever-expanding residential areas. Farmlands were sold to developers or to the Federal government. A second round of land acquisitions occurred as the Army expanded Fort Belvoir to accommodate anticipated training needs related to the United States' involvement in World War II. At that time, the remaining small properties east of Woodlawn Road and north of Pole Road as well as the institutional structures associated with the Woodlawn community itself, disappeared when the Fort Belvoir post was again enlarged.

During the last 20 years, major shopping, business, and industrial centers have emerged to dominate Fairfax, particularly along major transportation routes such as Interstate 95 and the Capital Beltway. Fort Belvoir's mission also has changed; since 1988, the installation has functioned within the Military District of Washington (MDW) and hosts and supports a variety of tenant activities. No longer rural, the Fort Belvoir area today presents a mosaic of commercial and residential areas that reflects the continuing growth of the Washington metropolitan region.

THE DEVELOPMENT OF FORT BELVOIR AS A MILITARY INSTALLATION HAS BEEN SUMMARIZED IN CHAPTER II OF THIS ICRMP.

REFERENCES CITED

Bryson, R. A. and W. M. Wendland

1967 Tentative Climatic Patterns for Some Late Glacial and Post-Glacial Episodes in Central North America. In *Life, Land and Water*, edited by W. Mayer-Oakes, pp. 271-298. University of Manitoba Press, Winnipeg.

Carbone, Victor A.

1976 *Environment and Prehistory in the Shenandoah Valley*. Unpublished Ph.D. dissertation, The Catholic University of America. University Microfilms, Ann Arbor.

1982 Environment and Society in Archaic and Woodland Times. In *Practicing Environmental Archaeology: Methods and Interpretations*, edited by R. W. Moeller, pp. 39-52. American Indian Archaeological Institute Occasional Paper Number 3.

Chase, John T.

1990 *Gum Springs: The Triumph of a Black Community*. Fairfax County Office of Comprehensive Planning, Fairfax, VA.

Chittenden, Betsy, Elizabeth David, Susan L. Henry, Michael F. Johnson, and Martha R. Williams

1988 *Fairfax County Heritage Resource Management Plan*. Heritage Resources Branch, Office of Comprehensive Planning, Fairfax, VA.

Clark, Wayne E.

1980 The origins of the Piscataway and Related Indian Cultures. *Maryland Historical Magazine* 75(1):8-22.

Custer, Jay F.

1980 Human Response to Holocene Climatic Episodes in the Northern Middle Atlantic. Paper presented at the 79th Annual Meeting of the American Anthropological Association, Washington, D.C.

1984 *Delaware Prehistoric Archaeology*. University of Delaware Press, Newark.

1987 Late Woodland Ceramics and Social Boundaries in Southeastern Pennsylvania and the Northern Delmarva Peninsula. *Archeology of Eastern North America* 16:121-136.

Egloff, Keith T., and Stephen R. Potter

1982 Indian Ceramics from Coastal Plain Virginia. *Archaeology of Eastern North America* 10:95-117.

Fausz, J. Frederick

1984 Merging and Emerging Worlds: The Interplay of Anglo-Indian Interest Groups in the Early Chesapeake, 1620 - 1660. Paper presented at the Third Hall of Records Conference on Maryland History, St. Mary's City, Maryland. Ms. on file at the Heritage Resources Branch, Office of Comprehensive Planning, Fairfax, VA.

Fehr, April M.

1983 Riverine Adaptive Phases and Environmental Stress During the Woodland Period in the Northern Shenandoah Valley. Paper presented at the Meeting of the Archeological Society of Virginia, Manassas, VA.

Gardner, William M.

1978 Comparison of Ridge and Valley, Blue Ridge, Piedmont, and Coastal Plain Archaic Period Site Distribution: An Idealized Transect (Preliminary Model). Unpublished manuscript.

1979 Paleoindian Settlement Patterns and Site Distribution in the Middle Atlantic (Preliminary Version). Unpublished manuscript.

1980 The Archaic. Paper presented at the 10th Middle Atlantic Conference, Dover, Delaware.

1982 Early and Middle Woodland in the Middle Atlantic: An Overview. In *Practicing Environmental Archaeology: Methods and Interpretations*, edited by Roger W. Moeller, pp. 53-86. American Indian Archaeological Institute Occasional Paper Number 3.

1986 *Lost Arrowheads and Broken Pottery*. Thunderbird Publications: Front Royal

Gleach, Frederic W.

1985 A compilation of radiocarbon dates with applicability to central Virginia. *Quarterly Bulletin of the Archeological Society of Virginia* 40:80-120.

Harrison, Fairfax

1987 *Landmarks of Old Prince William: A Study of Origins in Northern Virginia*. Vols. I & II. Reprinted. Prince William County Historical Commission, Gateway Press, Inc., Baltimore. Originally published 1924. By the author.

Herrman, Augustin

1673 Map of Maryland and Virginia. In Stephenson, the Cartography of Northern Virginia, Fairfax County Office of Comprehensive Planning, Fairfax, Va.

Hopkins, G. M.

1878 Mount Vernon District. *Atlas of Fifteen Miles Around Washington*. In Stephenson, *The Cartography of Northern Virginia*. Fairfax County Office of Comprehensive Planning, Fairfax, VA.

Johnson, Michael

1986 *The Prehistory of Fairfax County: An Overview*. Ms. on file. Heritage Resources Branch, Office of Comprehensive Planning, Fairfax, VA.

1988 *A Preliminary Reconnaissance of the Fort Belvoir Shoreline, Fairfax County, Virginia*. prepared for Fairfax County Heritage Resources, Falls Church, Virginia.

1991 Draft Guidelines for the Conduct of Archeological Contracts in Fairfax County, VA. Draft Ms.

Kavanagh, Maureen

1982 *Archeological Resources of the Monocacy River Region, Frederick and Carroll Counties, Maryland*. Submitted to the Maryland Historical Trust, Frederick County Planning Commission, Carroll County Planning and Zoning Commission.

Klein, Michael John

1994 An Absolute Seriation Approach to Ceramic Chronology in the Roanoke, Potomac and James River Valleys, Virginia and Maryland. Unpublished Ph.D. dissertation, University of Virginia. University Microfilms, Ann Arbor.

Klein, M.J. and T. Klatka

1991 Late Archaic and Early Woodland demography and Settlement Patterns. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*. Edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 139-184. Special Publication 23 of the Archeological Society of Virginia.

Lee, Carol

1982 *Legacy of the Land: 250 Years of Agriculture in Carroll County, Maryland*. The Carroll County Commissioners, Westminster, Maryland.

LeeDecker, Charles H., Charles D. Cheek, Amy Friedlander, Teresa E. Ossim

1984 *Cultural Resources Survey and Evaluation at Fort Belvoir, Virginia*. Prepared for Office of Cultural Programs, Mid-Atlantic Region, National Park Service. Soil Systems, Inc. Alexandria, VA.

MacCord, Howard A.

1984 Evidence for a Late Woodland Migration from Piedmont to Tidewater in the Potomac Valley. *Maryland Archeologist* 20(2): 7-18.

Mitchell, Beth

1977 *Beginning At a White Oak. . .Land Grants and Patents of the Northern Neck*. Fairfax County Office of Comprehensive Planning, Fairfax, VA.

Moore, Larry

1993 Piscataway, Doeg and the Potomac Creek Complex *Journal of Middle Atlantic Archaeology* 9:117-138

Morgan, Edmund S.

1975 *American Slavery, American Freedom*. W. W. Norton and Company, New York.

Mouer, L. Daniel

1991 The Formative Transition in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*. Edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 1-88. Special Publication 23 of the Archeological Society of Virginia.

Netherton, Nan, Donald Sweig, Janice Artemel, Patricia Hickin, and Patrick Reed

1978 *Fairfax County, Virginia: A History*. Fairfax County Board of Supervisors, Fairfax, VA.

Norton, Robert F. and Edith A. Baird

1994 The Taft Site: A Middle and Late Woodland Assemblage from the Virginia Coastal Plain. *Archaeology of Eastern North America* 22:89-133.

Parker, Patricia L.

1986 *The Hinterland: An Overview of the Prehistory and History of Prince William Forest Park, Virginia*. Occasional Report #1, Regional Archeology Program, National Capital Region. Department of the Interior, National Park Service, Washington.

Smith, Bruce D.

1986 The Archaeology of the Southeastern United States: from Dalton to de Soto, 10,500 - 500 B.P. *Advances in World Archaeology* 5:1-92.

Stewart, R. Michael

1980 Environment, Settlement Pattern, and the Prehistoric Use of Rhyolite in the Great Valley of Maryland and Pennsylvania. Paper presented at the 10th Middle Atlantic Archaeology Conference, Dover, Delaware.

Sweig, Donald (editor)

1977 *Registrations of Free Negroes Commencing September Court 1822, Book #2 and Register of Free Blacks 1835, Book #3*. History Section, Office of Comprehensive Planning, Fairfax County, Fairfax, VA.

Sweig, Donald

1983 Free and Black Before the Civil War. *Northern Virginia Heritage* V(1):3-7.

Troth, Dorothy M.

1971 *Potomac Interlude: The Story of Woodlawn Mansion and the Mt. Vernon Neighborhood, 1846-1953*. Privately published.

Virginia Department of Historic Resources

1990 *Virginia's Comprehensive Planning Process: An Overview*. Draft Ms. Virginia Department of Historic Resources, Richmond.

Wendland, W. M., and R. A. Bryson

1974 Dating Climatic Episodes of the Holocene. *Quaternary Research* 4:9-24.

Writers' Program of the Works Projects Administration, Virginia

1941 PRINCE WILLIAM: THE STORY OF ITS PEOPLE AND ITS PLACES. AMERICAN GUIDE SERIES,

APPENDIX III

NATIONAL REGISTER NOMINATIONS

**APPENDIX III CAN BE OBTAINED BY CONTACTING FORT BELVOIR
ENVIRONMENTAL NATURAL RESOURCES DEPARTMENT**

Appendix IV

Archeological Compliance Record for U.S. Army Garrison, Fort Belvoir

APPENDIX IV

ARCHEOLOGICAL COMPLIANCE RECORD FOR U. S. ARMY GARRISON, FORT BELVOIR

The documents summarized in the tables in this appendix represent a compendium of archeological projects undertaken at Fort Belvoir since the early 1970s. The tables, and an accompanying notebook containing copies of actual documents, were compiled as an aid for determining the status of archeological investigations at the installation. Two types of documents were reviewed for inclusion in this compilation:

- VDHR compliance correspondence for various archeological projects undertaken on post during the years specified. These documents were taken directly from compliance and project files in the Environmental and Natural Resources Division of the Directorate of Installation Support (ENR-DIS) at Fort Belvoir.
- Abstracts of reports on file at the library of the Virginia Department of Historic Resources and the library of the Fairfax County Park Authority's County Archeological Services library that are not included in ENR-DIS' current library.

These combined documents, together with other material housed at DIS, represent an initial listing of many archeological projects conducted on the Post; however, they should not be construed as "complete." For example, some projects that were not undertaken for compliance with Section 106 do not have corresponding compliance documents; other studies undertaken at Fort Belvoir actually were conducted for other agencies, and compliance documentation rests with the sponsoring agency. Further work in DIS' files as well as continuing research at the VDHR and at V-DOT in Richmond may be necessary to generate a complete compliance record for Fort Belvoir (ongoing). Please note that certain studies conducted at the post are not included in the following summary because DIS files contain no correspondence with VDHR regarding their review or concurrence.

**ARCHEOLOGICAL PROJECTS
AND COMPLIANCE
DOCUMENTS**

1995-1999

Date	Authors	Abbreviated Project Title	Compliance (Y/N)
1996	Fahey	GIS Data Development for Archeological Sites	N (Not required)
1996	Fiedel, O'Brien, and Heck	Phase II Archeological and Historical Investigations of Sites 44FX635, 1677, 1333, and 1505	N
1996	Jones	Evaluation of Impact/Monitoring of Construction: D-CEETA Facility (Letter reports)	Y (5/15/96)
1997	Williams and Melhuish	Archeological Evaluation of Three Cemeteries: 44FX739, 44FX1208, and 44FX1210	Y
1997	Simons	Phase II Archeological investigation of Sites 44FX1898 and Delineation of Site 44FX1925	N
1997-1998	William and Mary CAR	Archeological Survey of the Proposed Construction of the National Ground Intelligence Center, Albemarle, VA	Y (10/8/98)
1999	Simons, Michael	Phase I Survey for Telegraph Road Widening Project (Letter report)	Unknown
1999	Parsons Engineering	Data Recovery at Sites 1327 and 1328 (in progress)	Unknown

**ARCHEOLOGICAL PROJECTS
AND COMPLIANCE
DOCUMENTS**

1970-1979

Date	Authors	Abbreviated Project Title	Compliance (Y/N)
ND	Chatelain and Johnson	I-95 to Rt. 1 By-Pass Connector	N
1976	Shott	Belvoir Manor Archeological Study	N
1977	Gardner and Carr	Archaeological Reconnaissance of a Proposed Railroad Spur Line	N
1977	Gardner, Curry, and Carr	Archaeological Reconnaissance of 90 Acres at the Fort Belvoir Family Housing Project (Woodlawn Village)	N
1979	Chatelain and Johnson	Preliminary Cultural Resource Reconnaissance of the Proposed Widening of Route 1 from Little Hunting Creek to Belvoir Road	N
1979	Koski-Karell	Springfield By-Pass and Extension: Technical Report: Phase I Cultural Resource Investigations (Federal Highway Administration)	Y (7/12/94) MOA (1983) EIS (1984)

**ARCHEOLOGICAL PROJECTS
AND COMPLIANCE
DOCUMENTS**

1980-1984

Date	Authors	Abbreviated Project Title	Compliance (Y/N)
1982	Koski-Karell	Springfield Bypass and Extension: Technical Report: Phase II Cultural Resource Investigations	Y (7/12/94) MOA (1983) EIS (1984)
1983	Israel	Archeological Reconnaissance Triplett Homestead Site and Family Cemetery, Round Hill, Fort Belvoir (now HECSA)	N
1984	Johnson	Fort Belvoir Life Care Community	N
1984	LeeDecker, Cheek, Friedlander, Ossim	Cultural Resource Survey and Evaluation at Fort Belvoir, Virginia	N

**ARCHEOLOGICAL PROJECTS
AND COMPLIANCE
DOCUMENTS**

1985-1989

Date	Authors	Abbreviated Project Title	Compliance (Y/N)
1986	Johnson	Expansion of Lower Potomac Pollution Control Plant	Y (10/30/86)
1986	Johnson	Mason Run Storm Drainage Improvements	Y (6/20/1986)
1986	Johnson	Phase I Archaeological Survey for a Proposed Rappel Tower and Training Ramp, Fort Belvoir	Y (5/21/86)
1986	Henry	Archeological Survey of the INSCOM Facility at Fort Belvoir, Virginia	Y (6/20/1986)
1987	Henry	Phase I Archaeological Survey for the Historical Center and Museum, Humphreys Engineer Center, Fort Belvoir	Y (11/21/86): "No effect determination"
1987	DeCicco	Phase I Archeological Reconnaissance of Proposed Construction Site of HQUSACE	Y (11/21/86): "No effect determination"
1987		Virginia National Guard Armory	? (Linked to Disturbance Study)
1988	Polk	Disturbance Map Development: Fort Belvoir Historic Preservation Plan	Y (7/14/94)
1988	Johnson	Preliminary Archeological Reconnaissance of the Fort Belvoir Shoreline, Fairfax County, Virginia	Not required
1988	Neumann et al.	Phase I Archeological Survey of 262 Acres at Fort Belvoir, Virginia (D-CEETA property)	Y (11/6/87)
1989	Stevens and Balicki	Archeological Investigations for the Proposed Location of the U. S. Army Corps of Engineers Headquarters to the Humphreys Engineer Center	Draft EA/ FONSI filed
1989	Gardner and Walker	Phase I Archeological Survey, Telegraph Woods Sanitary Sewer Line, Fort Belvoir	N
1989	McLearen and Boyd	Phase I Cultural Resources Survey of Proposed Improvements to Route 618, Fort Belvoir, Fairfax County	? (VDOT project)

**ARCHEOLOGICAL PROJECTS
AND COMPLIANCE
DOCUMENTS**

1990-1994

Date	Authors	Abbreviated Project Title	Compliance (Y/N)
1990	Ryder, Hanbury and Boyd	Phase II Investigations of Three Sites Located Along Route 618, Fairfax County, Virginia	? (V-DOT project)
1991	Traver and Polk	Phase II Investigations of Twelve Archeological Sites	?
1992	Goodwin & Associates	Phase I Archeological Investigation of the Proposed Alternate 4, Gunston Road Extension, Fort Belvoir	Y (5/22/92)
1992	Blanton and Linebaugh	Phase I Cultural Resource Survey of a New Alignment of the Proposed Route 613 Project, Fairfax County	? (VDOT project)
1992	Polk, Traver, and Thomas	Phase I Survey of Fort Belvoir Virginia (2 vols)	Y (7/14/94)
1992	Miller	Phase IA Literature Search for Submerged Cultural Resources in Tompkins Basin, Fort Belvoir	Y (7/12/94)
1992	Polk, Thomas, Traver	Phase I Investigations of Various Development Sites and Training Areas, Fort Belvoir	Y (7/14/94)
1993	Hill, Overbeck, Snyder and Gardner	Phase II Archeological Investigations at Four Sites (Golf Course Expansion), Fort Belvoir	Y (4/22/93)
1993	Hill and Gardner	Phase II Archeological Investigations at 44FX1497 and 1913, Fort Belvoir	Y (8/26/93)
1993	Galke and Stevens	Pohick Loop Access Trail	Y (9/2/93)
1994	Williams and St Onge	Phase II Investigations at Cheney School Outgrant, Fort Belvoir	Y (10/11/94)

APPENDIX V

**CULTURAL RESOURCE
INVESTIGATIONS AT THE
ENGINEER PROVING GROUNDS,
FORT BELVOIR, VIRGINIA**

Appendix V

CULTURAL RESOURCES AT THE ENGINEER PROVING GROUNDS (EPG), FORT BELVOIR, VIRGINIA

The former Fort Belvoir Engineer Proving Ground, an 820-acre parcel located approximately 2 miles northwest of the Main Post on Backlick Road, functioned during the Cold War era as a munitions testing facility. When the U. S. Army Engineer School moved to Fort Leonard Wood, this portion of Fort Belvoir ceased to be a functioning portion of the Fort Belvoir installation. The EPG presently (2000) is being considered for a variety of alternative uses.

The attached list of previous cultural resources investigations have included archeological surveys of all or part of the EPG, and documentation of three structures within this portion of Fort Belvoir:

Summary

No significant archeological sites have been identified within the 820-acre Engineer Proving Ground property. Disturbance studies and archeological studies conducted in 1984 and 1989 concluded that large portions of this property were disturbed, and therefore contained no potential for additional archeological resources.

Three Cold War era structures on the EPG property were surveyed in 1996, and assessed as “contributing elements” of the U. S. Army Package Power Reactor (SM-1) Multiple Property; however, the relationship of these structures to the SM-1 Plant is unclear. No comprehensive architectural survey of all the built resources at EPG has been conducted.
